

FOOD

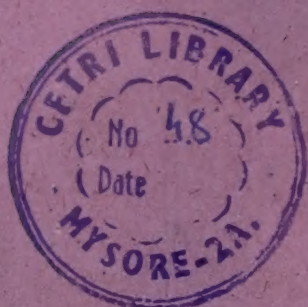
FROM

POLAND

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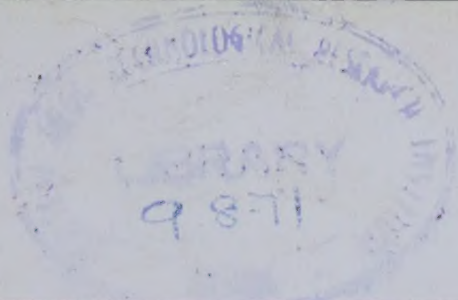








# FOOD



## from Poland

view of Exports of Agricultural Products and Foodstuffs

N. 1(35)

CFTRI

H.C.

*Informs — on the high quality of Polish food and agricultural products*

*Facilitates — choice from the wide range of Polish goods*

*Helps — to establish contacts with Polish foreign trade enterprises.*





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**The afternoon snack at Swoszowice** belongs to that group of pictures.

HIPOLIT LIPiŃSKI (1846—1884), was born in Nowy Targ and died in Krakow. He studied at the Krakow Academy, in Munich where he was the pupil of T. Dietz and H. Anschütz and after the return to Poland he continued his studies for two years under Jan Matejko. He painted mainly genre pictures and landscapes. He proved then to be a keen observer of life and produced works full of dynamism and authenticity. The landscapes — extremely delicate in drawing and unexpectedly close to Impressionism in their treating of colour are the most beautiful works of his.



The Polish food and agricultural products industry began to develop parallelly to the general industrial development, particularly towards the end of the second half of the 19th century. Considerable achievements were attained at the beginning of this century by the Polish sugar industry, and later by the spirits, tobacco and brewing industries. Simultaneous development was taking place in the export of the Polish food products. This export, formerly limited to agricultural unprocessed products, began gradually to encompass ever larger quantities of products of the Polish food industry, which have gained considerable recognition among foreign consumers.



The tradition of the beginnings of food science in Poland is of long standing, and having been formed at present as a scientific discipline this science takes its place in the general development of scientific thought in Poland. The fundamental works of L. Pasteur (1822—95) in France and J.V.Liebig (1803—1873) in Germany, were accompanied by the works of Poles such as of the technologist J. Belza (1805—1888), biochemist L. Marchlewski (1868—1946) and others. Worth mentioning is that a Polish research worker and vitaminologist — Kazimierz Funk (1884—1967) was the creator of the name VITAMIN.



What is the source of the popularity of Animex and of its importance in the international trade?

Undoubtedly, the high quality of production, the result of many years traditions in husbandry and the fact that Polish farmers put their hearts into their job. Products introduced on the world markets are made of raw material which has, under our climatic and soil conditions, specific features.

Trade marks for ready products have been introduced on world markets at considerable cost and effort, representing a visiting card of the achievements of our food industry.



In Poland there are some 610 factories of the fruit and vegetables processing industry, and the Union represented by me associates only 59 factories, i.e. only 9 per cent. This number will become still smaller in the future, as the result of concentration of the production capacity. So much about the relations: the Union — the branch. It is quite a different matter when we speak in terms of production. Here are some examples: in 1955 the total value of production of our branch amounted to 2 milliard 300 million zloties, of which the Union has accounted for 1 milliard 225 million. In 1970 the value of the total production of the branch has grown to 8 milliard zloties and that of the Union — to 5,2 milliard.





# POLISH EXPORT OF FOOD

Poland has long-standing traditions in the export of food and agricultural products.

Thanks to favourable natural conditions — the soil and climate, already for centuries agriculture was in Poland the basic and essential branch of the national economy. Relatively high crops permitted not only to fully meet the demand of the home market, but left also considerable surplus for export.

The Polish food and agricultural products industry began to develop parallelly to the general industrial development, particularly towards the end of the second half of the 19th century. Considerable achievements were attained at the beginning of this century by the Polish sugar industry, and later by the spirits, tobacco and brewing industries.

Simultaneous development was taking place in the export of the Polish food products. This export, formerly limited to agricultural unprocessed products, began gradually to encompass ever larger quantities of products of the Polish food industry, which have gained considerable recognition among foreign consumers.

In the last few years before the war a small number of factories of the Polish meat processing industry began export production of canned ham and other meat preserves.

The Polish canned ham is known on the American market for more than 30 years, the Polish bacon found its way to the British market 55 years ago, the export of eggs in shells began 90 years ago.

In the prewar period our export in this group of commodities was dominated, however, by agricultural products. The true development of the Polish food and agricultural processing industry took place in the past twenty five years.

Several big modern industrial works have been organized on the basis of small prewar workshops, by their development and modernization. At the same time a large number of new factories has been built.

In effect, in addition to the development of branches existing already before the war, new branches of the food industry have been developed, which were non-existent in Poland prior to 1939 or insignificant. We should mention here, as an example, the food-oil industry with its high production of margarine and vegetable cooking fats, the industry utilizing slaughterhouse offals (production of bristle, utilization of such offals in the pharmaceutical industry), the herbs industry (processing of herbs, production of herb medicines, aromatic substances and food seasoning).

We have developed the production of such commodities which were produced before the war on an industrial scale only in insignificant quantities, or not at all.

Big, modern socialized factories have been established in such branches of processing as the fruit and vegetable industry (production of wines, jams, compotes, fruit and vegetable juices, etc.), the food concentrates industry (concentrates of soups, sauces, seasonings, desserts and ready dishes — made with the application of the most



Vice-Minister Wincenty  
Zydron, Ministry of  
Food Industry and  
State Purchases

most advanced technological achievements, e.g. liophilization), the confectionary industry, fish-processing industry, milk industry, tobacco industry, fodder industry, etc.

The situation in our agriculture was favourable for the steps taken in order to develop the food and agricultural industry. The state purchase system of agricultural products and planned contracting secured the supply of the necessary agricultural raw materials, including industrial plants and slaughter animals.

The growth of the production potential was due not only to the increase of the production capacity (quantitative). The modernization of equipment and technological processes was, and continues to be, the decisive factor. Poland has at present industrial works which equal the most modern factories of the world.

Considerable financial means are allocated for development of the production capacity of the food industry, large amounts of money are invested in the construction of elevators and other



# ND AGRICULTURAL PRODUCTS

es for storage of agricultural products and ready food products. Particular attention is deserved by the development of the refrigerating industry, comprising modern plants fully meeting the highest requirements of storage and distribution.

The development of storage refrigeration is of paramount importance for the national economy; representing the main element of the so called "cooling chain" it is of essential importance for the development of food production and its proper storage (this is particularly important in the case of seasonal production).

Large cold stores and in smaller ones belonging to factories of various types we are developing the refrigerating production, particularly of frozen fruit and vegetables, wild berries, and ready or half-cooked meat and mixed dishes.

These steps brought improvement in the utilization of raw materials, high productivity, increased production capacity, and better quality of ready products (i.e. thanks to hermetization, elimination of the influence of air and of the touch of human hands, etc.). Particular attention is paid to the latest technology of production and hygienic conditions in food processing.

The food processing industry has prepared an extensive programme of improvement of production and of increasing the degree of processing and ensuring the durability of food products. This programme is consistently being carried out.

The problem of modern, attractive packaging, meeting the requirements of

aesthetics and securing the durability of products, became of paramount importance.

The type and quality of packings is the subject of particular care and attention of the food industry. Poland can boast of considerable achievements in this field. Advanced materials and plastics are used on an ever larger scale.

The Polish food and agricultural products enjoy considerable recognition on foreign markets thanks to their high quality. This quality is attained primarily thanks to the high grade of Polish raw materials specially selected for this production.

The decisive role in products of animal origin is played by natural methods of feeding the animals and proper conditions of husbandry; in case of products of vegetable origin it is important to avoid excessive chemization of crops. The Polish legislation concerning production of food products contains very strict requirements concerning the quality of raw materials, technological processes and ready products.

Food products designated for export pass an additional standardization inspection carried out by a state authority — the State Quality Inspection.

Plans for new activities for the year 1971 and the nearest future have been established on the basis of the past achievements and programmes, aimed at the development of export of a wide range of high quality agricultural products. These plans take into consideration the market situation in Poland and in other countries of the world. The list of exported products is undergoing continuous modification in order to adapt the assortment range to

the tastes and requirements of foreign customers. At the same time our market policy strives to secure the position of our "traditional" export already established on foreign markets, including bacon, ham and canned meat preserves, sugar, potato meal, geese and other popular Polish export commodities.

Our 1971 export offer will include such food articles as meat-and-vegetables preserves, frozen egg mass, powdered eggs, fresh fruit and vegetable juices, concentrated fruit juices, low sugar content jams, frozen fruit and vegetables, frozen ready dishes, etc.

Our assortment range of exported alcoholic drinks is continuously extended, covering various types of beer, wines and meads, and — in the first place — Polish vodkas and liqueurs, enjoying high opinion among our foreign customers.

Our assortment list of confectionary products, food concentrates, ready potato products, and numerous other food articles is also continuously extended.

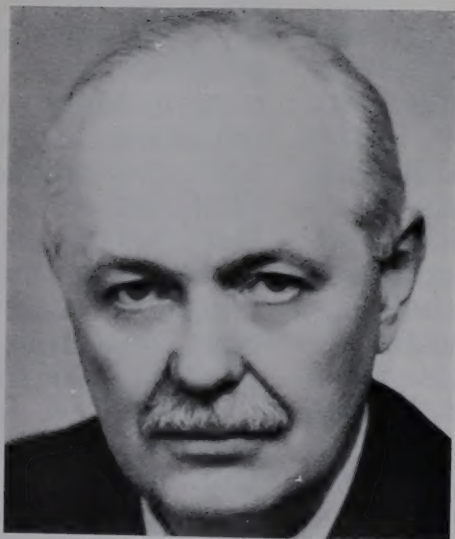
The share of raw materials and unprocessed products is diminishing, while the proportion of processed products supplied in unit packing, ready for use, is steadily increasing.

High quality of product, application of most up to date aesthetic and convenient packing giving our products the character of a luxury commodity — these principles will govern in 1971 the export of Polish food products.

The export of food and agricultural products is directed to many countries, primarily to Western Europe and to the U.S.A.



# THE EVOLUTION OF FOOD SCIENCE IN POLAND



Prof. Dr. A. Rutkowski  
Chairman of the Com-  
mittee of Food Techno-  
logy and Chemistry,  
Polish Academy of  
Sciences

The superb progress of science primarily draws attention to the development of electronics and chemical synthesis, shaping the symbol of the technic of our times. On the other hand, less attention is drawn to the fact that a new branch of science — technology and chemistry of food has arisen and expanded in this 20th century, without which the development of food industry and the nutrition of the country, is inconceivable. We rarely realize that besides professional competence and experience of the production personnel, long and tedious research of scientists lies at the foundation of the production of fresher bread, ham of a juicy consistency and good colour, or of conserves rich in vitamins.

The tradition of the beginnings of food science in Poland is of a long standing and, having been formed at present as a scientific discipline, this science takes its place in the general development of scientific thought in Poland. The fundamental works of L. Pasteur (1822—95) in France and J.V. Liebig (1803—1873) in Germany, were accompanied by the works of Poles such as of the technologist J. Belza (1805—1888), biochemist L. Marchlewski (1868—1946) and others. Worth mentioning is that a Polish research worker and vitaminologist — Kazimierz Funk (1884—1967) was the creator of the name VITAMIN.

The science of food and its production as a scientific discipline practically did not exist during the prewar period in Poland, just as it had not existed in other countries of a similar and higher socio-economic level. This discipline of knowledge has at present at its disposal in Poland university departments and research institutes where over 1500 workers with a higher education are employed. The fact that the Polish Academy of Sciences is one of the few organizations of this type, which called into being the Scientific Committee of Food Technology and Chemistry and the Committee of Human Nutrition, is a proof of the significance and development of this scientific discipline in Poland, determining in this way the rank of this field of science. This is also expressed by the appointment of four of its representatives as members of the Polish Academy of Sciences.

What is this scientific discipline, established during the last 25 years, formed of? The food science supplies indispensable information on the composition, physical, chemical and biological features of raw materials and products and on their changes during processing, transport and storage. Owing to this, vegetable and animal raw materials, processed into food products by means of appropriate technological processes, can be consumed in another place and time than where they were produced, and have the proper nutritive values and features required by the consumer. As a result of advance in science and technology, there has been formed between the producer of agricultural products and the consumer a link — food industry — which buckles the most vital interests of Man with the biological productive resources of the country.

Preparation of food is a function which accompanies Man from the dawn of mankind. But not until now has an appropriate scientific discipline been formed. The indispensable conditions for the forming of this, just as other scientific disciplines, result from definite economic and social conditions. Even not so very long ago barely 10—20% of the food composing the diet of an average European inhabitant, Pole included, was produced outside of the household and that most frequently in small craftsmen's shops. The nutrition of cities was based, on the other hand, on the production of farms in the nearest region. That did not create the need or a greater incentive to conduct more profound studies on food, either of a cognitive or technical character. The Polish food industry at present receives about 80% of the purchased products from the farmer and the production of the industry constitutes over 70% of the nutritive calories of the city population. At present, the product of the Polish



mer's work in the form of products and conserves reaches the most remote corners of our globe constituting an appreciable element of international trade exchange of our country. This produces an immense demand for research work, which shows industry the way of an economically justified production of articles of a high sensory value, having a high biological value and durability and whose collective features correspond to the highest world standards.

Research work on the chemistry and technology of food is conducted in Poland by four departments and a number of university institutes and by special scientific-research institutes and central industrial research laboratories, appointed especially for this purpose.

Departments of food technology of agricultural universities and polytechnics have educated over 3,500 graduates during the last 25-year period, constituting at present the management personnel of scientific workers and production staff. At present about 400 graduates, specialists in food industry are finishing higher schools yearly. The scientific and didactic profile of individual university departments has formed the following specialistic lines: Warsaw — technology of vegetable products and human nutrition; Poznań — technology of cereals and food concentrates and the technology of meat; Olsztyn — technology of animal products and especially dairying; Gdańsk — technology of fats and oils; Łódź — technology of fermentation industries and sugar refining and the potato industry; Szczecin — high-sea fisheries and fish technology. The graduates of these colleges have proved their high scientific and professional level not only in the country, but frequently as FAO experts and as specialists employed through the agency of Polservice by international organizations. Their preparation enabled them to perform with great success the scientific or technical tasks set, frequently under difficult different conditions as regards raw materials and technology.

The professors and assistant professors of Polish universities constitute a highly qualified group of scientific workers. Besides education of new personnel, they enrich by their, particularly fundamental, investigations the development of that field of science and pave the way for new ideas of applied research for the immediate needs of production. Through their activities, professors of colleges are closely bound with industry. Many of them are members of the Scientific Council to the Minister of Food Industry and Purchase, as well as members and chairmen, of scientific councils of industrial institutes.

The principal research for the needs of food industry is carried out by the Institute of Sugar Industry, Institute of Fat Industry, Institute of Fermentation Industry, Institute of Meat Industry and Institute of the Dairy Industry in Warsaw, and furthermore the Central Research Laboratories of the Egg-Poultry Industries, of Food Concentrates Industry of Poznań, Refrigeration in Łódź, Cereal and Baking Industry in Cracow. The further technical advancement of industry as well as the attainment of an increasingly higher quality of products, produced by this industry are conditioned by the results of the research work obtained by these posts. A number of technological processes used at present constitute the results of the research work of these posts, which document their weighty research achievements by the patents received and by their scientific publications.

Besides the research institutes and technological laboratories, institutes subordinated to the Ministry of Health watch over the quality and hygiene of food in the country. These are the Food and Nutrition Institute in Warsaw, whose research is concentrated on the quality and biological values of food, and the State Institute of Hygiene, which conducts research on the hygiene of food. Both these posts cooperate closely with industry and contribute toward obtaining high qualitative and biological values of food products destined both for the domestic market and for export

The results of Polish research work as regards chemistry and technology of food arouse extensive world interest. They are the subjects of publications in scientific periodicals in a number of countries. Especially many Polish articles are encountered in scientific periodicals of Czechoslovakia, France, the German Democratic Republic, the German Federal Republic, Italy and USA. Polish scholars take an active part in the activities of international scientific organizations. Prof. Dr. E. Pijanowski is vice-chairman of the Fédération Internationale de Laiterie, Prof. Dr. St. Krauze is vice-chairman of Internationale Gesellschaft für Vitalstoffe. The achievements of Polish researchers are distinguished by international organizations. For instance, Prof. H. Niewiadomski is decorated with Medal Chevereul (France) for works in the field of the chemistry of fats, Prof. St. Zagrodzki with the medal of the Association des Chimistes et Ingenieurs de Sucrierie, Distillerie et des Industries Agricoles et Alimentaires for works on the sugar industry.

Recently, we perceive in our laboratories increasingly more scientific trainees from other countries, who desire to extend their knowledge within the framework of postgraduate training. This also testifies well for the expansion of food science in our country.

The achievements of Polish research workers as regards the chemistry and technology of food is also expressed in the fact that our country is more and more often a place of international meetings, whether in the form of specialized scientific symposia or international congresses. The II-nd International Congress of Food Science and Technology (Warsaw 1966), Vth Congress of International Society of Fat Research (Gdańsk 1960), or VIII Symposium Commission Internationale des Industries Agricoles et Alimentaires (Warsaw 1965), International Symposium for the Chemistry and Technology of Rapeseed Oil and Other Cruciferae Oils (Gdańsk 1967) can serve as examples.

As I believe, those taking part in these meetings, carry away good impressions from Poland, based not only on our hospitality but also a favourable evaluation of the level and research results we have achieved. The presented sketch of the development of research posts and scientific life in the field of technology and chemistry of food finds a substantial expression in the high quality of products of the Polish food industry. This is distinctly proved by the high evaluation of consumers and also by the prizes received at international exhibitions and fairs by such products as: beer, vodkas, frozen fruit and vegetables, ready food products (convenience food), fruit preserves and fruit juice concentrates, pork butcher's meat products, ham, bacon, cheeses and a number of others. A further increase in production of Polish agriculture and in the demand of the home market and the increasing requirements of international markets will call in the future for more and more intensive work on new technological solutions on the basis of thorough scientific research. This concerns both structural preparations in the field of mechanization and automation of production lines and also the elaboration of a number of production methods such as: fluidization in the desiccation and freezing industries, more economic methods of lyophilizational dehydration, the use of enzymatic preparations in technological processes and working out of new methods based on modern bioengineering methods. We are arriving at present in the food industry at the level at which we are offering within the framework of international goods exchange products of the natural agroclimatic conditions of our country, enriched by the results of the research of Polish scientific workers. This shapes the need for intensive and complex investigations for the needs of our industry in close connection with agricultural research and research in the field of the hygiene of human nutrition. Polish science is prepared for this research, having both a highly qualified personnel and experimental equipment at a high technical level.



# 20-years of activity of **ANIMEX**



**An interview with  
Mr.  
Dęborski Tadeusz**

— All anniversaries are an occasion for balancing and summing up. On the 20-th anniversary of the activities of ANIMEX we would like to ask you a question:

**What position is occupied by the Enterprise represented by you in the world export of animal products?**

— 20 years are a very modest anniversary, especially in view of the fact that the export of goods in which ANIMEX is dealing has much longer traditions. Huge food companies started operation in the last twenty years in Europe and in overseas countries, enormous progress has been made by the meat processing industry, considerable development has taken place in the modern technology of processing.

A similar progress took also place in Poland in the field of husbandry and processing. The war has almost completely destroyed the Polish meat industry. From that time we made an enormous progress. Small factories with unfavourable location from the





int of view of regionalization of husbandry have been replaced by huge modern combines, with processing enterprises featuring a high standard of hygiene. Workers employed in this industry, producing meat preserves, bacon and wide range of sausages of the highest quality, began frequently work in the small factories which gave the beginning to the post-war Polish meat industry. Their experience has been of enormous assistance to the newly recruited personnel.

For those reasons the position occupied by ANIMEX in the world meat trade, with turnover of the order of 50 million dollars a year, places our enterprise in the ranks of the most important partners in the world food trade.

**— What is the source of the popularity of ANIMEX and of its importance in the international trade?**

— Undoubtedly, the high quality of production, the result of many years traditions in husbandry and the fact

that Polish farmers put their hearts into their job.

Products introduced on the world markets are made of raw material which has, under our climatic and soil conditions, specific features.

Trade marks for ready products have been introduced on world markets at considerable cost and effort, representing a visiting card of the achievements of our food industry.

On the most important markets our trade marks belong to the leading group in this field. KRAKUS and ATALANTA, the names under which our products are sold on the U.S.A. market, are a byword for the highest quality and are equally well known in New York and Chicago as in California and Florida. The Polish ham attains the highest price on these markets. YANO belongs to the most popular trade marks of canned pork meat in the German Federal Republic. Polish bacon and PEK meat products gained high recognition among the British consumers, just as POLBRAND, the trade-mark of the Polish butter which is in high demand among the gourmands.

**— Could you describe shortly for our readers, among whom are many buyers of products exported by ANIMEX, your export offer, including a short characteristic of some products?**

— Technical progress implanted in our meat, poultry, egg and milk industries gives a guarantee that the high standard of quality of our products will not only be maintained, but will be consistently improving. Considerable attention is paid to the development of production of ham and canned meat products, the demand for which exceeds our present production possibilities. In this field, following the demand of the market, we shall change certain packings and modify the technology of production, extending the durability of the product while retaining its taste characteristic. These innovations will also enable deliveries of sliced products for modern department stores.

Poultry, and particularly geese, representing our traditional export position on the European markets, are produced

on the basis of individual farms. Nowadays the farmers and especially their wives find it ever more difficult to devote time to the poultry; we would like to maintain this export and even increase it, as the demand cannot be fully met from year to year. To achieve that target ANIMEX intends to take a number of steps aimed at securing the growth of production. We have no intention of changing over to industrial methods, mainly because of necessity to maintain the standard of quality (industrial methods cannot be applied to geese), but we plan to continue our export, even increasing it in the near future, by increasing the extent of artificial hatching, further regionalization of production, assistance in transport, etc. Our export of young slaughter cattle will reach this year 200,000 heads. This is a cooperation export as most of the fatlings are subjected to intensive fattening in the buyer's country. This export has a great future.

As the main supplier to the European markets of horses for slaughter and in view of the base represented by our





economy (the stock amounts to some 2.5 million heads) and rapidly progressing mechanization of agriculture, we can see the possibility for further development of this export, both as live animals and as boneless meat and quarters.

The list of our products, is so long, of course, that it would be difficult to talk about all of them; we will continue the export of bacon which occupies at present one of the leading positions on the British market, of game, down and plumage, which have gained such a good mark on the British market.

— **The quality of products plays an important role in the competition on international markets. Could you tell us a few words about the production base and the role played by the scientific and research establishments in the industry, which supplies products exported by ANIMEX?**

— I have touched on this subject already in my previous statements. I have mentioned the material base for production of meat preserves and poultry and our continuously growing export of the fattening cattle. I would like to supplement this information. Thanks to many years' care and attention of our agricultural authorities pigs bred in Poland produced a type of a lean hog with excellent proportions of the most attractive cuts of meat, which are in highest demand. The fodder consists mainly of food waste discarded by farmers, ensuring excellent taste and aroma of the meat. Our fattening cattle, mainly of the black-and-white lowland breed, is in very high demand in Western Europe thanks to their easy acclimatization under any conditions and very good daily increment of weight under conditions of intensive fattening by the buyers. The development of the base of fattening bullocks was made possible thanks to the agrotechnical care of the state over animal production, to the well developed network of the veterinary service, and to the extensive investment projects, already realized and in

course of realization, in the meat, egg-and-poultry and milk industries, and in the state farms.

The problems of export receive considerable attention of the Scientific Council at the Minister of the Food Industry and Purchase of Agricultural Products, of the Institute of the Meat Industry and of several research laboratories associated with the respective industrial associations. The scientific workers of those institutions are frequently participating in the work of the ANIMEX Branch Consultative Committees, and many of their valuable initiatives have been already incorporated to the advantage of the development of our exports.

ANIMEX is a member of several international branch organizations, our workers take active part in the work of these organizations. Specialized firms are carrying out periodically research of the basic markets in order to assess our own position on the given market and the demand of this market within the scope of our products, the type of packing and organization of the sales network. The results of such research are very helpful at the preparation of long-term plans of production and export.

— **Could you say a few words about the plans of ANIMEX for the nearest future?**

— We want, of course, to maintain our strong position on the world markets. However, in view of the growing demand of the home market for meat products (the consumption of meat — 52 kg per head places Poland before such countries as Yugoslavia, Italy, Holland and Switzerland) the further development of export of ANIMEX depends on the development of the home production base. In view of such situation, although this base is continuously growing, we do not envisage a larger increase of our turnover, all our efforts will be directed at improvement of quality of our products, better, more attractive packing, improvement of sales organization, etc.

Interviewed by Józef Korzeniowski



Economic Director of the Union of the Fruit-and-Vegetables Industry, Mr Tadeusz Loth

**KRAKUS** *is the well known trade-mark of a wide range of fruit and ve-*

*getable preserves exported from Poland. Consumers all over the world are willingly buying these products as they know that the KRAKUS trade-mark guarantees high quality and good taste. Very few of them, however, know anything about the producer, its range of activities and plans for the future. In order to fill this gap we have approached the economic director of the Union of the Fruit and Vegetables Industry, Mr. Tadeusz Loth, M.Sc., asking him to answer a few questions.*

— *First of all we would like to ask you for a few words about the production potential of your Union.*

— To make the matter quite clear it is necessary to point out that the Union of the Fruit and Vegetables Industry represents only a small part of this branch. In Poland there are some 610 factories of the fruit and vegetables processing industry, and the Union represented by me associates only 59 factories, i.e. only 9 per cent. This number will become still smaller in the future, as the result of concentration of the production capacity. So much about the relations: the Union — the branch. It is quite a different matter when we speak in terms of production. Here are some examples: in 1955 the total value of production of our branch amounted to 2 milliard 300 million zloties, of which the Union has accounted for 1 milliard 225





million. In 1970 the value of the total production of the branch has grown to 8.0 milliard zloties and that of the Union — to 5.2 milliard. The value of the total production of the branch has grown threefold, and of the Union — fourfold. These figures are the best illustration of the dynamic development of the fruit and vegetables processing industry. A few small factories, associated with the Union, were processing not so long ago only 30 thousand tons of fruit and vegetables, today they are processing almost 700 thousand tons.

Our Union is basing its production on the most advanced technologies. The factories are equipped with the most up to date machines and equipment of Polish origin and imported from Italy, Great Britain, Sweden and the U.S.A.

— *It is generally known that the quality of the fruit and vegetables preserves depends to a large degree on raw materials. Could you say a few words about the supply of your factories with material for processing?*

— High quality raw material, in sufficient quantity, is the decisive factor. The Polish strawberries, for instance, are considered to be the best. Peas, string beans, spinach, baby beetroots and many other fruit and vegetables grown in Poland are well known on many world markets. In order to meet the basic requirement of the processing industry — to supply the consumer with a good product — our industry must take continuous care for proper quality raw material. High quality raw material can be obtained through close cooperation with science. That is the reason why we are maintaining close contact with a number of departments at higher institutes of learning. Agricultural scientists, for instance, from the Institute of Vegetable Cultivation and from the Institute of Plant Protection cooperate with us on the production of new varieties; we

are also cooperating with the Institute of Fruit-growing. Scientists from those institutes are testing fruit and vegetables, working on improving their quality. We have also our own Pharmaceutical Institute.

That's how the problem looks at the higher level of management. At a lower level, i.e. in factories, the production is based on the principle that each factory has its own region of supply. Planters and gardeners from this region enter into long-term contracting agreement with the factory's management. The supervision of instructors and specialists from a given branch guarantees the planter a good product, and for a good product he will get a good price. The factory has its own horticultural service comprising agrotechnicians and specialists in various aspects of cultivation, who are responsible for observation of all the stipulations included in the contract. In this way we have the guarantee of the primary condition of our success — the good quality of raw material.

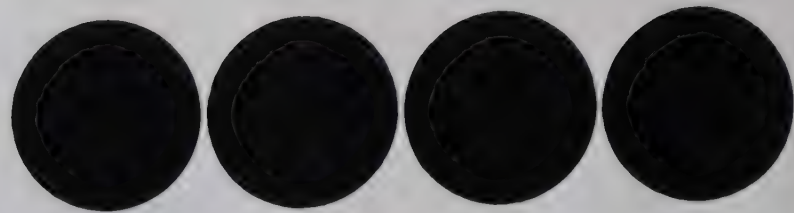
— *What production novelties will be introduced in the nearest future?*

— In the first place, we want to enlarge the assortment range of our preserves. We will produce, among other, jams with sugar contents lower by half than in the traditional product. We shall place on the home and export markets concentrated fruit juices, pasteurized fruit and fruit jellies. We are preparing the production of powdered fruit. The juices will include in the first place the unequalled black currants juice and a variety of vegetable juices. We are already starting the production of several types of vegetable salads, various combinations of multi-vegetable salads, etc.

We hope that following the tradition our products will meet with recognition among the consumers and will be winning awards on various foreign expositions, as in the previous years.

J.K.





# The influence of the scientific and research facilities on the development and quality of fruit and vegetables.



Fruit and vegetables contain large quantities of vitamins and many other nutritious values. They are tasty and nourishing, it is no wonder therefore that their consumption is continuously growing. In the present times they represent an essential constituent of every day's food of the population.

Fruit and vegetables are grown in almost all countries of the world, but some can be cultivated only in the hot climate of Africa and Asia or in the Mediterranean, others can be grown only in our temperate, central-European climate.

Poland lies, as is generally known, between the 49th and 54th parallel and the 24th and 27th meridian, on the northern hemisphere. We cannot grow, therefore, in our climate the citrus trees, fig-trees, quince, paprika, water melons, and many others. On the other hand, fruit and vegetables grown in our country acquire — thanks to our soil and climatic conditions — a unique taste, fragrance, colour, shape and nutritious value.

We are cultivating in Poland cabbage, carrots, red beet, onions, cauliflowers and many other seasoning vegetables, such as parsley, celery, caraway, dill, leek and garlic, as well as asparagus and horse radish.

Poland is also famous for her fruit — seedy, stone and berry type. From the first group the best known on the world markets are apples and pears; from the stone fruit — plums, cherries and sour cherries, to a lesser degree apricots and peaches. The berry fruit grown in our country include the famous Polish red, black and white currants, various varieties of gooseberries, raspberries, strawberries and wild strawberries. The group of vegetables includes also — although not in the strict sense of the word — new eatable potatoes and champignons. The latter, in spite of manifold increase of their production, are selling like hot cakes on the home and foreign markets.





**BLACKBERRY**

GENUINE POLISH WINE

PRODUCT OF POLAND





## ONLY IN OUR CLIMATE

The above mentioned fruit and vegetables are grown in many European and non-European countries, but some of them, grown in Poland, are unique as regards their taste and nutritious value. In some cases varieties bred in other countries and acclimatized in our country bear more valuable fruit of unequalled succulence. Onions grown in Poland contain the biggest amount of nutritious components. Our cauliflowers have the best shape, colour and nutritious value. Polish cucumbers are known all over the world for their freshness, juiciness and aroma. The perfect under all respects cabbage can be grown only in our climate. Have you noticed the curious market phenomenon — asked me Dr. Michał Drozdowicz, head of the research establishment of the Central Board of Horticultural Cooperatives in Warsaw — that apples and tomatoes imported to Poland from southern countries in years of drought are always selling cheaper by a few zloties than home grown fruit, and still the majority is buying the Polish fruit. This is quite understandable as apples ripening in our country acquire the unique acidulous taste and sappiness. These are not the only features of fruit grown in Poland, as the buyers require also high resistance to transport difficulties and good storing properties. Tomatoes, raspberries, currants and other fruit and vegetables grown in Poland have specific, unrepeatable taste properties.



## THE SCIENTIFIC AND TECHNICAL BACKGROUND

Particular care over the quality of fruit and vegetables grown in Poland and over their development is the responsibility of the Polish scientific and technical establishments active in this field, primarily of two research centres of world renown — the Fruit-Growing Institute and the Vegetables-Farming Institute at Skierniewice. The Central Board of the Horticultural Cooperatives (CSO) has organized its own scientific and research centre led by Dr. Michał Drozdowicz. Cooperation is maintained also


departments, at the agricultural universities and with experimental establishments located in various climatic and soil regions of Poland.

Other scientific and research centres are engaged in experiments, breeding new, more valuable and profitable varieties, trying to domesticate interesting varieties grown in other countries, working on regionalization of individual crops, and popularizing the recommended varieties of fruit and vegetables among the growers.

Scientists propagating new varieties must take into consideration many different factors. The growers, for instance, would prefer such apple trees which could give abundant fruit crops with good storing properties, selling for high prices. The buyers, on the other hand, are looking for tasty and cheap fruit, of high nutritious value. Frequently the buyers encouraged by low prices are buying low quality fruit, a situation which does not favour the policy of selectiveness, aiming at elimination of bad varieties and grades. In the not so distant past, ten years ago, there were over a 100 varieties of apples on the Polish market, today their number has fallen below 50. The research establishment of the Horticultural Cooperatives recommends actually only a few varieties, among them the "Mecintosh", "Jonathan", "Orange Koksa", "Starking" and "Delicious".

Research carried out over the period of many years has established that in order to avoid various diseases attacking raspberries, the location of plantations of this fruit should be changed every few years, and this by considerable distance. When propagating the plantations of strawberries one should take into consideration the availability of labour, as the varieties grown in Poland can be picked only by hand because of variegated period of ripening. Experiments are carried out in domestication of such varieties which feature simultaneous ripening, which, in turn, would enable mechanical picking.

Many years studies and research of the Polish scientists enabled to introduce, to a large degree, specialization of crops in the Polish fruit and vegetable farming. The whole regions specialize in production of specific fruit or vegetables — onions, strawberries, cauliflowers, tomatoes, apples, etc. Specialization and regionalization facilitates training of producers, enables better utilization of scientific personnel working in this field and permits to organize modern transport and processing industry.



## TECHNICAL BASE

After the specialization and regionalization of fruit and vegetables farming — an undertaking which brought manyfold increase of crops,

we could start building modern stores and factories for processing fruit and vegetables. The research establishment of the Central Board of the Horticultural Cooperatives is working on directives for new technological processes. Experimental work is carried out in stores and processing factories aimed at improvement of loading and unloading operations, sorting, sizing and packing. Mechanization is introduced in picking of fruit and vegetables. Many specialists are working on development of advanced packings, as so far we did not have any special achievements in this field. Proper packings are not only an aesthetical problem, although this is also an important aspect — it is primarily the problem of eliminating the possibility of harmful influence of packing on human health. There is also the economic aspect — specialists from the already mentioned research establishment have developed palletized crates with capacity of 300 kg of apples (the conventional crates, used hitherto, could contain only 20 kg). This system permits to reduce the storage costs without increasing the percentage of waste. The same establishment sponsored the construction of some 40 storage houses, utilized also for training young personnel. Plans for the future envisage the construction of an experimental cold store in Warsaw, which will also serve — in addition to its basic function of storing — for training young scientific cadre and medium-level technical personnel for servicing the purchasing stations and work in processing factories and stores.



## PERSPECTIVES FOR FURTHER DEVELOPMENT

Plans for the next few years envisage an increase of production of fruit and vegetables, at simultaneous change of structure of this production, continuous improvement of quality of products, increase of crops and growth of productivity. Machines and equipment, unknown so far to our horticulture but successfully used in other highly developed countries, will be introduced in the specialized regions. This will have an undoubted influence on reduction of costs of production and — consequently — on reduction of prices. Our basic task is at present a change of technology of production, which would enable to increase the productivity and to extend the acreage under cultivation.

Wl. Oryl





1) Prof. Dr Szczepan Pieniążek, a Polish scientist, explaining to visitors the secret of Polish achievements in the field of gardening and pomiculture.

2) Visitors to the works admire up-to-date installations and cleanliness of production halls.

3) In June 1971 a group of the U.S.A. producers and businessmen visited the "Hortex" cooling and deep-freezing plant in Góra Kalwaria near Warsaw.

In the photo; Visitors are being shown the line where fruit is washed and cleaned prior to further processing.







**The popularity of frozen products is so universal today that encouragement to eat them would not call for the authority of a popularizer. The appetizing fresh appearance, the careful packing and modern way of selling have a better effect than persuasion. Their nutritive values are in excellent harmony with the external qualities of frozen products. The taste of a well frozen product does not differ or only insignificantly differs from the fresh product.**

Tomatoes are exceptions and in a lesser degree cucumbers and strawberries. But the changes are relatively slight in these products also. Specialists think that dishes from frozen products can constitute the foundation of daily nutrition both for adults and children, even for the sick. Freezing and storing products in low temperatures is therefore such a method of conserving products which enables to preserve nutritive components to the highest percentage. And so; frozen products fully retain all their mineral components. Certain small losses arising during the preliminary processing, preparation of vegetables and fruit intended for freezing are of no essential importance. These losses particularly involve small changes in the content of vitamin A, C and vitamin B. In conformity with the results of investigations recently carried out the frozen fruit contains about 85% of vitamin A in relation to its content in fresh fruit, and vegetable frozen products about 80%. Losses in vitamin C amount to about 20% in relation to fresh fruit and vegetables. By adding a little sugar or syrup for thawing the fruit, losses are reduced to a considerable degree. The process of freezing and storing causes about 10% loss in vitamin B. The carbohydrates

appearing in fruit and vegetables during the freezing process undergo a transformation into what are called simple sugars. They become more easily assimilable in this form by the human organism — in other words this change can be only included among the merits of frozen products. All these facts speak in favour of the most extensive use of frozen products, the more so that they enable to lend variety to meals irrespective of the season of the year. We frequently reach for frozen products even during the season of fresh vegetables and fruit. A market, well supplied in frozen products is of particular importance to women who work professionally and at the same time run their households. For they make work easier that is connected with provisions. Frozen products can be stored without any fear in a household refrigerator (temperature of  $-18^{\circ}\text{C}$ ) for a period of three weeks. Using frozen products not only shortens the shopping time enabling to buy "beforehand", but at the same time contributes toward reducing the time destined for preparing dishes. For, as a rule, frozen products are not raw products but semi-products. The monotonous work of washing, cleaning and preparing the products falls away.

# F r o z e n





Thus, for instance, a modern housewife will not be enticed into buying fresh spinach even in full season. For preliminary preparation of spinach would take more time than the preparation of the entire dinner. Fresh leaves must first be sorted, then adequately washed in several waters, drained, boiled, strained, shredded and not until then comes the proper preparation of the dish. By using frozen products, the time of preparing the dish is reduced only to the last stage — simultaneously saving time, water and fuel. An unquestionable advantage.

The manner frozen products are prepared for consumption is a matter of fundamental importance. By proceeding correctly, 80% of the value of fresh products is retained. This concerns both frozen vegetables, fruit and meat products, fish and poultry. Storing thawed products or freezing them a second time is inadmissible. Thawed vegetables and fruit, left in the open air lose their colour, taste and vitamin content and as regards meat, fish and ready-to-cook products, there is a rapid increase of microorganisms disqualifying the product. Contact of the product with air should be avoided during thawing. Ready-to-cook dishes, meat, fish and vegetables should

be thawed in their packages. The same concerns fruit frozen with sugar. Frozen fruit without sugar should be sprinkled with sugar before thawing or a syrup should be poured over them, thus insulating them from the action of oxide, destroying the vitamins. Vegetables which are to be boiled do not need thawing. They are put into boiling salted water in a frozen state. We then frequently use the fruit without thawing for instance plums for compote or soup. The same concerns fruit destined for dumplings or ravioli. Frozen products can also be thawed by leaving them in the bottom shelves of the refrigerator, they then thaw slowly for 5 to 8 hours. We advise to thaw meat, fish fillets and poultry in the same way. By thawing slowly, they do not lose their juices. Products are thawed much more quickly at room temperature — namely from 2—3 hours. The thawing period can be considerably reduced by putting the product — obviously in its package — into cold water of room temperature. Thawing then lasts 30—45 minutes. The same methods are used when preparing dishes from frozen products as when using fresh raw materials.

Several details are given in the recipes printed below:

## Fruits and Vegetables



## 1. Frozen chickens stewed in tomatoes

2 broilers, 1/3 glass olive oil, 2 onions, 2 tablespoons flour, 3/4 — 1 kg frozen tomatoes, 1 clove garlic, tarragon, sweet basil, salt, sugar and pepper to taste. Remove frozen broilers from freezer and leave them in the lower part of a household refrigerator for 5—8 hours. When thawed, wash, drain and cut into portions. Rub each portion with tarragon, mixed with sweet basil and sprinkled with flour, then brown on frying pan with hot olive oil. When browned to a golden colour, put portions into a kettle, add finely chopped onion, sprinkle with salt and pepper, sprinkle slightly with water and stew under cover on a low fire. Rinse frozen tomatoes without thawing and remove peels, then slice with a sawing knife and add to chickens when they are soft, after more or less 30 minutes of stewing. Stew for a while. Remove from fire, add garlic rubbed with salt. Season sauce to taste with salt and a bit of sugar. Serve with rice boiled until grains separate and with a salad of raw frozen cucumbers.

## 2. Frozen carp au gratin in sour cream

1 frozen carp of about 1 kg weight, 2 tablespoons olive oil, 1 glass sour cream, 1 tablespoon flour, 1 onion, salt and pepper, 3 tablespoons grated Parmesan cheese.

Put frozen fish into a dish with water so that it would thaw. Remove scales from the frozen fish by running a knife from the tail to the head. Then cut the belly at the bottom, being careful not to damage the bile. After gutting, wash fish thoroughly in running cold water. Put the clean fish into an oven pan with oil. Fill the abdominal cavity with chopped onions with salt and pepper.

top of fish, sprinkle with salt and pepper. Put into heated oven. When brown cover with sour cream, blended with flour and sprinkle with Parmesan cheese. Bake. Serve immediately after baking with French fried potatoes and green lettuce or a salad of raw endives.

## 3. Vegetable soup from frozen vegetables

1 package of frozen mixed vegetables, 1/2 tablespoon butter, 15 dkg sour cream, 3—4 potatoes, 3 tablespoons chopped green parsley, salt and pepper to taste.

Pare, rinse and dice washed potatoes. Put frozen vegetables into the kettle, pour over with boiling salted water, adding a half of the measured butter. Add the prepared potatoes. Boil until soft. Boil 15 minutes. Remove from fire, add the rest of the butter and sour cream. Season to taste with salt and pepper. Serve at once when done, sprinkling a little chopped green parsley into each soup plate.

## 4. Frozen cauliflower salad

1/2 kg frozen cauliflower, 2—3 hard-boiled eggs, 2 apples, 1 bunch green parsley, several leaves of green lettuce, 3/4 glass mayonnaise sauce and 1 clove of garlic, 1 raw leek, 2 frozen tomatoes, salt, sugar, pepper and lemon juice to taste.

Put cauliflowers into boiling salted water with a little sugar. Boil about 12 minutes, remove from the broth. Use broth for soup or sauce, do not throw away for it contains valuable nutritive components. Chill cauliflowers. Dice hard-boiled eggs. Pare apples, grate on a coarse grater, adding them with lemon

juice. Mix with mayonnaise. Cut washed leek into very fine strips, add to apples, mix with eggs, add green parley, season to taste with salt, sugar, pepper and lemon juice. Arrange cauliflower on a round platter, surround with green lettuce leaves and arrange the salad in mayonnaise artistically on these lettuce leaves. Wash tomatoes, peel and slice. Garnish the platter with them.

## 5. Carrots and peas on toast

1 package of frozen carrots with peas, 1 tablespoon butter, 1 tablespoon flour, salt and sugar to taste, 8 buttered slices of white wheat bread, 8 pieces of Masurian cheese, 2 tablespoons chopped dill or chopped parsley.

Pour boiling salted water on frozen carrots and peas. Boil until soft (15—20 minutes). Sprinkle with flour, mix, boil and remove from fire, add butter and season to taste with sugar. Put slices of cheese on the slices of bread, put on a pan into a heated oven. Remove from oven when they begin to brown. Put carrots on a platter, surround with toasts, sprinkle with parsley or dill. Serve as a dinner or supper course.

## 6. Drink from frozen strawberries

1/2 kg frozen strawberries with sugar, 1 egg yolk, 3/4 glass cream. Remove strawberries from the refrigerator together with its package (polyethylene bag), put into a dish with water, and when slightly thawed — more or less after 15 minutes — remove from bag into a mixer, add yolk and cream, switch on the mixer. We get an excellent refreshing drink after a few seconds. The drink is served in small glasses with lady fingers.

Zofia Zawislowska

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**RYBEX-AN IMPORTANT  
CONTRACTING PARTY**



The export of fish and fish products in 1970, the last year of the past 5-Year Plan, exceeded planned figures by almost 40%. This unforeseen increase in our export and also of the world turnover indicates that the demand for fish and fish products continues to rise. This issues from the need to supplement considerable deficits in food. It is well known that almost 80% of the world population is undernourished. It is no wonder that we have observed a dynamic growth of fishery, especially sea fishery, for a good many years past. The growth is dictated after all also by the economic calculus. The period of fish production lasts relatively short and the cost of

tion of fish protein is much lower than the cost of production of the protein of warm-blooded animals. The matter of the growth of sea fishery assumes importance continually in Poland just as in many other countries. At present, the most modern vessels of a large production potential, capable of fishing on distant fishing grounds have been turned over for fishery operation. Owing to this, we have noted a considerable increase in quantity and assortment of catches and fish production. We have observed that as the demand for fish grows larger, immense steps have been taken forward increasing the supply of this commodity.

Poland for almost 8 years has passed from the group of countries fishing for their own needs to the group of countries conducting regular export activities. At the end of 1962, in connection with the considerable expansion of the industrial fishery fleet and with the prospects for the expansion of export production at sea, Rybex began to carry out commercial operations abroad, directly from fishing vessels. A very dynamic export growth is to be noted from this time on. There was already in 1967 a distinct shift in specific weight in favour of export supplies carried out by fishing vessels. This fact brought objective conditions











excellently — an aesthetic advertisement of the goods. Aluminum beer kegs is a novelty in Polish tin packing. Polish goods are also packed in multilayered cardboard, for instance uniting smooth and corrugated layers, and in plastic laminated paper, especially aluminum foil.

Modern packing materials used in the Polish industry have many advantages. We shall mention some:

- 1) Storage space and transport costs are economized while the durability of the packing is the same and the goods are fully ensured.
- 2) Possibilities of making the packing process and closing of packages automatic, which is facilitated by the use of light and cheap pasteboard boxes.
- 3) Simplification of many manipulation processes.
- 4) Increased possibilities of using the packing as a factor of advertisement.

Besides the modern packing materials, taking into consideration special features of the product, we also sometimes use — for instance in the case of

The quality of Polish bacon, ham, canned meat or frozen fruit products, to say nothing of Polish meads, pure and quality vodkas, is universally known and does not arouse any controversy. In order not to lose any of the natural values of products, proper packages must be used, Proper, that means taking into consideration the specific properties of the given product; raising its quality; aesthetic; convenient for the consumer.

Many myths arose about packings. The two most popular among professionals are: first, that the consumers wish to have the original package, even "odd-looking" of a type of Salvatore Dali's paintings; the other is myth of plastics.

Both myths were refuted by consumers themselves. It was found that goods in packages presenting the product in a realistic way or a dish prepared from it are readily bought.

Plastics did not either fulfill the hopes set on them in every way, they failed — as it had been promised at first — in revolutionizing the packing industry and ousting completely the traditional packing raw materials: glass, paper and tin. Just the contrary — at present a real renaissance of glass packing is to be observed throughout the world.

Poland defied the invasion of plastic packing in the food industry, which was used here with discretion. For instance oils: soya, rapeseed, sunflower are sold in plastic bottles, but fruit and vegetable products in glass jars sealed with "Twist-off" and "Euro-caps". These caps ensure the product full nutritive value and they can be stored even after opening and partial consumption of the contents.

Glass packings raise the attractiveness of the goods, are hygienic and wholesome. Their defect is brittleness and relatively heavy weight, but jars and bottles of thin glass of high durability are being more and more frequently introduced into the turnover.

Tin has a permanent position among Polish packings, as, after all, throughout the world. Obviously is it thinner and covered with better and better lacquer to protect it against corrosion.

Recently the easily destroyed paper packings are being replaced by plastic packings. It is its task





fresh eggs — wooden packing. For it has been found that eggs in these packings are excellently stored in refrigerators.

Containers are a specific form of packing — containers for 5 to 20 tons and over of product. The goods travel in the containers from the factory to the supermarket. Efficiency and economy are already to be perceived during loading the container at the consigners. For the container is loaded in the storeroom under beneficial thermal and light conditions and already in the packing intended for the consignee. Because of their size and weight, containers are not exposed to falling or turning over during transport. It is easier to safeguard the goods from damage and from being moved about during transport.

The containers fill an especially important role in the export of frozen products. They are supplied to the foreign consignee directly from the refrigerator, they



do not thaw during the way and thereby lose none of their nutritive values.

As issues from the above article, describing the diversity of forms of packing of Polish food, Polish Packing Industry makes every effort to be true to the slogan "The right packing for every merchandise". Worth mentioning is that the industry is relatively young. Some of the branches of this industry were established practically after the war. We began with import of packages, our importers initiated the shape, graphic form and utility — advertising value of the packages.

The Polish Packing Industry has expanded today its own production base and is proud, inter alia, of such a modern plant as the Plant, producing tin packages in Cracow and in Brzesko near Cracow.

The Polish Packing Industry not only continues to introduce new improvements in the design and forms of packages but also takes the special requests of importers of Polish food into consideration. And this very elasticity of the Polish Packing Industry deserves particular emphasis.





Stanisław Dygat is a Polish writer of "pervert" intelligence, as critics say, a writer of irony, grotesque, psychological paradox. He puts his heroes in uncommon, queer situations, in which new or heretofore concealed features of theirs are revealed. His novel, entitled "The Travel", is on a modest Warsaw clerk, who became a wealthy tourist, making an expensive trip to Italy. The matter spoken of in a fragmentary excerpt of this novel takes place in a trattoria "Under the Merry Oyster" where Henry learned to eat snails.

This is  
so good



Henry suddenly moved on with a long rapid stride. Zita, losing her balance suddenly, again almost fell down, but he caught her at once and ran alongside of him in a quiet trot. Henry slackened his step, let Zita's hand go, adjusted his tie, and sighed softly. He gave Zita a sideglance, Zita caught the look and smiled weetyly.

— Maybe we'll go to see it? — she asked

— What? See what?

— Well, that film.

— What film?

— That one you were telling me about.

— I didn't tell you anything about a film.

— Oh, stop it. Well, that film which is on at the cinema "Augusteo". You told it to me so nicely, you only lied about the end. So that I would get upset. Do make a sacrifice and go with me again.

— But I have never seen that film.

— Then from where do you know what it's all about?

— I don't know what it is about. Well, I just made it up. I saw a couple of photographs and invented the story. It's enough to see a few films and know a little about life to invent any kind of romance.

Zita was silent, deep in thought. They now sauntered very slowly like people, who after a whole week's nervous effort, revel in the Sunday afternoon's walk not forcing themselves to any hurry.

— Then let's go finally for that supper — said Henry. I am really hungry.

— And I'm not — said Zita firmly and perversely. You wanted to hoodwink me, and that's not nice of you.

— Oh, there, a little further, there is a trattoria on the other side that looks cozy. What it is called? I don't see from here.

— "Under the Mer-ry Oy-ster" — read Zita with pride and satisfaction that she has a better eyesight than Henry.

A woman likes to triumph over a man, to show that she is better in some things, and she makes it a point of honor to show it at every step.

She took Henry under the arm and they entered the trattoria "Under the Merry Oyster" together.

The restaurant was small and not very elegant. Neapolitan landscapes were painted on its walls.

An elderly man, rather fat, with a drooping white moustache and — contrary to the young waiter — very indolent stood behind the counter on which lay many diverse molluscs, being undoubtedly — as the sign showed — the specialité de la maison.

Green was the predominant colour in the decoration.

lampshade was green, the chairs were green and even the walls with the painted Neapolitan landscapes were green and there was an aquarium with goldfish and seaweeds standing near the counter.

Fatty did not react to the entrance of Henry and Zita, while Vittorino shouted loudly and merrily "Good evening to you Signora e Signor", that Fatty gave a start and made a wry face. Henry chose a table under Vesuvius and opposite to the counter over which Capri was painted. They hardly had seated themselves when, Vittorino flung the tableware and napkins before them unasked banged a plate with diverse snails, shoved the menus into their hands, assailed them with questions and suggestions with a voice whose volume and sound should have aroused great interest in someone hunting for operatic talents.

Henry ordered macaroni, fried seafish and white wine for himself and Zita but put aside with distaste the plate with the snails.

— Hey! — called Zita — what's that? I want to eat that. Well, did you come here by yourself or what? Open this, Boy.

Vittorino took out a penknife and within two seconds opened all the shells enthusiastically, and at the same time brought a lemon from the buffet.

— You don't know what's good — said Zita, getting at the shell fish.

Zita sprinkled them with lemon, swallowed them with great relish, at the same time purring like a cat. She was so involved in eating that she lost interest in Henry. Henry could now freely observe her. She no longer looked as pretty as he thought she did in the dark street. She sat sprawled, ate greedily, made smacking noises, that was eating like an old woman and not like a girl. A violent clatter resounded. That was Vittorino throwing from behind Henry's back a bottle of wine on the table. It was Frascati in a big bottle with a thin neck, cold as was seen from the misty dark glass.

Zita gave a grunt of satisfaction and approval, and not waiting for Henry's initiative, poured herself a full glass which she drank in one gulp. She wiped her lips with the back of her hand and not until then did she see that Henry's glass was empty. She grunted again which this time meant some sort of an excuse, and filled his glass, swallowing in the meantime a snail, which she had had time to carry to her mouth in between, gesturing with her fingers for him to drink it up at once.

— Just as Zita drank it in one gulp and felt warm and content. He gave Zita a friendly look.





Zita took a snail from the platter and drew it toward him with an outstretched hand. She did not turn to him doing this, but carried the snails to her lips uninterruptedly with the other hand.

Henry drew back his head.

— No, no. I don't want that.

Zita turned to him and looked at Henry disapprovingly. No, she was not pretty. But she made a specific grimace, such a womanly grimace, which frequently convinces men more than enchanting beauty.

— But I am begging you to eat it. Well, just taste it.

— But I can't bear that. I abhor snails.

— But did you ever eat them?

— No, never.

— He never ate them but abhors them. What a kid you are.

— Please, I beg you to take your hand with that reptile away.

— Is my hand abhorrent to you? That's a good one.

— Not your hand, but that mollusc. Please...

— And I am asking you to eat it. You can do something for me once a year.

— I don't understand what the point is.

— There is no point. I only want you to eat it. I know you will like it.

— And I assure you that it will not taste good.

— Good, then let's try.

— Good. You think that you are so wise, so you will see for yourself. Let's try...

Henry, with a look of a martyr who knows that he must make a sacrifice, violently tore the mollusc from Zita's hand and, closing his eyes, tilting his head back and twisting his lips in a funny way, swallowed the snail. He remained for a while with eyes closed and completely motionless. Zita, also motionless, watched him with a slightly gaping mouth and with a little amused and a little uneasy expression in her face. Henry slowly opened his eyes, winked several times, moved his neck, grabbed a glass, took a deep swallow of wine, then his face brightened up and he called:

— Hey, Waiter! Bring another portion of this titbit!

He had barely finished the sentence when Vittorino already clattered a plate against the table and within the next two seconds opened the molluscs with a penknife.

— Ha, ha, laughed Zita. — Do you see? Do you see? How often in life, a person is idiotically prejudiced against things without tasting them?

Ha, ha, ha! — laughed Henry — How could I suppose that it is so good?



## SNAILS exported by POLCOOP

POLCOOP FOREIGN Trade Enterprise of the Central Agricultural Union of the "Samopomoc Chlopska" Co-operative, the renowned and respected by consignees in many countries the world over exporter of agriculture products and foodstuffs, exports also "Bourgogne" Roman snails (*Helix pomatia* Linnae). This sort of snails which are recognized as a delicatessen of the first class, is already almost extinct in France. In Poland, however, Bourgogne snails are found in fairly large numbers in many regions.

Collection and exports of Roman snails are carried out at a time when snails do not store calcium in their body, i.e. from mid April, after the first warm spring rains, until mid June. Snails collected during that period are characterized by meat of a white colour and an especially delicate taste.

Customers in France, Switzerland and in the German Federal Republic have found out already for a long time the high taste virtues of Polish snails and consider them as an article of the highest quality.

Only live snails with an undamaged shell of 28 mm diameter and therefore weighing more than 15 g are allowed for export.

Before shipment the snails are examined by the Central Quality Control Office and the veterinary service.

Snails are exported in cases measuring 600×600×260 mm and weighing 25 kg net. They are shipped in fruit type railway cars in lots of 7 tons.

The right time of collection, a careful preparation for export of this delicate article, efficient and quick delivery and, above all, the delicious taste of Polish snails uphold the ever very high demand for Polish Bourgogne Roman snails.

The exporter:

POLCOOP Foreign Trade Enterprise of the Central Agricultural Union of the "Samopomoc Chlopska" Co-operative, Warszawa, Kopernika 30, POLAND.

Telephones: 26-10-81/4, 26-23-63

Telex: Polcoop Wa 81-4451



# Protected plants in Polish philately



So far the Polish Post Office has shown protected plants twice on stamps: in 1962, a series of twelve stamps presented the common protected plants (Cat. "Ruch" No. 1177—88. Cat. Michel 1325—36), in 1967 protected plants were shown in a series of 6 stamps (Cat. "Ruch" 1623—8 and Cat. Michel 1770—5), which are widely used in therapeutics. This last series has an apparent internal contradiction. On one side "plants under protection" and on the other "plants which are widely used in therapeutics", hence plants that are plucked and processed. This contradiction is regulated by special rules and we know that without any harm for protection purposes — single plants are found in the herbal therapeutic mixtures of the "Herbapol" firm, in demand throughout the world. The following plants were shown on single stamps of this series:



# ROLIMPEX

exports and imports agricultural products

## EXPORT

Sugar, Sugar beet Molasses, Dried sugar beet slices — "whole cut" and "small cut", Dried sugar beet pulp in pellets, Dried chicory roots, Milling rye, Oats, Rye germs, Buckwheat shells, Brewing barley, Brewer's malt, Hops, Rapeseed, Crude rapeseed oil, Rapeseed meal, Macaroni, Potato starch, Modified starches, Dextrine, Instant potato crisps, Potato pulp for feeding purposes, Sugar and fodder beet seeds, Grass and fodder plant seeds, Vegetable and flower seeds, Feeding seeds, Tree seeds, Ornamental trees and shrubs, Forest tree seedlings, Medicinal herbs and spices.

## IMPORT

Grains, Rice, Oils and fats, Oilseeds, Oilcakes, Fodder plant seeds, Vegetable and flower seeds, Medicinal herbs.

# ROLIMPEX

FOREIGN TRADE ENTERPRISE

Exporters-Importers

Warsaw Al. Jerozolimskie 44, POLAND

Telephone: 26-20-11, 26-22-21, 26-74-41

Cable: Rolimpex — Warszawa

Telex: 814-341 Rolx-Pl

40 groszy — mountain arnica —  
arnica montana L.

60 groszy — columbine — agui-  
legia vulgaris L.

3.40 zlotys — spotted gentian —  
gentiana punctata L.

4.50 zlotys — club moss —  
lycopodium clavatum L.

5.00 zlotys — Siberian iris — iris  
sibirica L.

10.00 zlotys — yellow azalea —  
azalea pontica L.

The entire series was printed in  
multicoloured offset in sheets of  
30 pieces according to the design  
of the plastic artist, Andrzej Heidrich.  
The clarity in the composition of  
the stamps draws attention,  
enabling an accurate presentation  
of the plant which undoubtedly  
enhances the didactic importance  
of this attractive series.

Names of the plant are given in  
Polish and Latin. The stamps —  
being a series for circulation, are  
printed in many million  
reproducible editions.



# From Carpets

Highmoor peat (sphagnum) colloquially called garden peat, finds increasing use in many fields of economy. It is used in agriculture, horticulture, in housing and industrial building, serves therapeutic purposes and for experiments on protection against radioactivity.

The formation of peat layers is known. It was formed and continues to be formed in sections, called basins (a hollow in the ground), where peat-forming plants had grown, which had been decomposed by precipitation water of atmospheric derivation. Peat mosses constitute the predominant plants: sphagnum, medium, fuscum, cuspidatum and recurvum and the indispensable pine — *pinus silvestris*. Besides there are still the round-leaved sundew — *droseria rotundifolia* (an insectivorous plant — at present under protection) and cotton grass.

The plants mentioned die each year, and, with the participation of precipitation water, form in the hollows small layers of peat moss of one millimetre thickness. (Hence, one metre of peat moss is formed during a period lasting over a thousand years). Next year a new small layer of dead plants covers the preceding one, causing the peat moss to become thicker and the lake or pond to gradually disappear. The process of the formation of the peat bog goes on.

The principal components of peat are carbon, hydrogen, oxygen, nitrogen and sulphur. The freshly extracted peat is sterile — devoid of alien odours and of all micro-organisms. Peat of a low degree of decay and with many absorptive properties is most in demand. Such peats are found in large quantities on Polish lands. No wonder that Polish peat plants cannot fully meet the demand of home markets and of many foreign customers even though each year the production is larger.

Dr. Eng. Ludwik Dudek, director of the Peat Plant of Pasłęki, says that the plants, he is in charge of, are being modernized, importing the most modern machinery and equipment from abroad in order to increase peat extraction. For instance, "Marder Leichtrauppe" machines have been imported from the German Federal Republic, in order to remove the topsoil, and a machine, a "Steba" cutter, to pull out the tree trunks and bushes. The Marder Leichtrauppe is a multifunctional machine — cleans up the ground, digs ditches for drying the peat and extracts it. The "Wiesel" machine collects and loads the peat, dried in low walls,

on carts of narrow-gauge railways. A self-propelled "Hauster" machine is used to take up the already dried peat. The machine is 50 m in length and takes up the peat along the entire section at one time. The ready, dried product, cleaned by means of mills, is loaded by a roundabout, revolving press into polyethylene bags and waits to be dispatched for export. Every amount produced here finds buyers at once.

At present — says Dr. Dudek — owing to the steady advance of science, peat finds increasingly broader uses. Owing to its absorptive properties, it is used as the litter in poultry breeding farms. In this case peat absorbs moisture and the unpleasant smells and, moreover, since it is sterile, it disinfects the surface. It is used in agriculture and horticulture to fertilize the soil or to restore biological functions in cases of mining or others. This is especially important in cases of clay and sandy soils. It enables to maintain moisture and aeration of the soil. Our peat, says Dr. Dudek, is rarely encountered because it is characterized by its low degree of decay and because it has high absorptive properties. For instance, a brick of 15×20×42 cm dimensions has the capacity of absorbing 10 litres of water. This property with a respective state of moisture serves to store fruit and is ideal for ripening of tomatoes. Apples stored in peat retain their freshness, aroma and colour for a long time.

Carpets of flowers can be made by means of peat. For instance, a layer of peat can be held in place by a wire net fastened to a vertical wall. After proper moistening, flower seeds are sown or flower seedlings planted on the peat wall and it is covered from top to bottom with a beautiful carpet of flowers. Such a carpet can be watered every so often and the flowers will bloom during an entire season. Baths for certain rheumatic ailments are taken in a properly prepared peat salve (a therapeutic mud).

Peat is indispensable in the building industry for the production of soundproof plates also used for insulation of radio broadcasting and television studios, as well facing in passenger steamers, because peat powder mixed with ground, lime, cement and water-glass is used for the production of insulation plates, which are universally applied at present. Flower pots can be made from peat, in which plant seedlings are cultivated until the time when atmospheric conditions enable to plant them in the ground. After the flower pot comes into cont-

act with moist earth, it becomes soft and is slowly assimilated with the soil as it dissolves, letting the roots of the plant pass through. At the same time it strengthens the plant as a fertilizing food.

Peat also serves for the production of semicoke. The semicoke bricks do not soil the hands and burn out completely. It is impossible to enumerate all the possibilities for using peat, because as science expands, its use becomes more universal. No wonder, that the demand for peat is growing with each year.

The Pasłęki Peat Plant has about 700 hectares of resources available in the Pasłęki District and new surface areas have been assigned to them in the Districts of Morąg and Braniewo. This will suffice for several dozens of years even though the quantity extracted is doubled and continues to increase.

Besides the home market, peat from Pasłęki is sent to consignees in USA, Australia, France, the German Federal Republic, Austria, Italy, Denmark, Yugoslavia and the Canary Islands.

However, before this valuable raw material reaches the many consignees, much burdensome and costly work has to be carried out. The meadows, destined for peat extraction are generally wet and without roads of approach. Roads of approach must first be built, kilometres of narrow-gauged rails have to be laid, the ground must be drained and the shrubs removed, in other words, the ground cleared of wild-growing shrubs and sporadically growing trees. This work is carried out by the machines mentioned. After the water is drained off through the drainage ditches, the top soil is removed (living vegetation) and then at last the operational machines are introduced. The machine digs up a deep ditch from 75 to 80 cm by cutting the area into plots of 20×15×42 cm dimensions. The peat bricks are laid aside and dry for several days. Then they are piled according to grade. Drying under average good atmospheric conditions takes 50 to 60 days. After drying and carting them to special storehouses, the peat is taken to the mill, where at first it is shredded and then cleaned of fine roots by means of blowing air.

Then the soft, brown peat of diverse granulation is loaded by means of presses into PE bags, in which it is dispatched to consignees of many countries.

W.O.

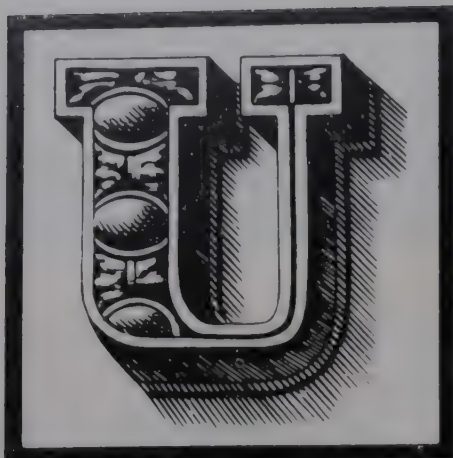
## of Flowers to Acoustic Peat Boards



# EXPORTER POLCOOP







## Where Scientists Work

Almost every encyclopaedia carries the following information under the entry "Sugar Beet";

— an industrial plant, cultivated for its roots which contain up to 20 per cent of sugar.

The cultivation of sugar beet dates back to the period of Napoleonic wars (beginning of the 19th century), when limitations were imposed on the imports of sugar cane to Europe. At that time the sugar content of beets was low and did not exceed 5—7 per cent, i.e., 5—7 kg of sugar from every 100 kg of beet roots. In later years the content of sugar was considerably raised owing to scientists toilsome work and so was the beetroots yield per hectare. Parallel to it there increased the crop of sugar beet leaves — a valuable fodder, especially for milk cows. In sugar beet production Poland ranks sixth in the world, following the Soviet Union, the U.S.A., France, Federal Germany and Italy.

Obviously enough, it is not a matter of indifference to the Polish state whether our farmers will gather a sizeable sugar beet crop of a high sugar content.

Accordingly, our state economic policies favour the successful production of sugar beet — a source of sugar, a most important food article for the growing urban and rural population, both as for industry and export.

Thus sugar beet means food for people, fodder for livestock, raw material for industry, a valuable export commodity. Yet sugar beet is also a very exacting plant; requiring extremely careful cultivation, sowing, thinning out and digging. Although many jobs have already been mechanized, still a number have remained which are done manually, mostly by women. No wonder, country women are most vitally interested in the advances science makes in this sphere. The breeding-research station of the Institute of Plant Breeding and Acclimatisation in Kończewice near Chelmska (Bydgoszcz voivodeship) deals primarily with the problems of beet growing.

— What are the main trends of your research work and which developments achieved by the Kończewice centre have already been introduced into the farming practice, that is the question we addressed to Mr. Henryk Kozera, M.Sc., Director of the Station

— First of all, I should like to mention the breeding of monogerm seeds of the POLI-MONO-IHAR variety. Seeds from Kończewice are sent for further reproduction to Polanowice near Inowrocław, wherefrom they are distributed both to state farms and to private farmers. The above mentioned monogerm variety, strip-sown by means of Polish-made point seeder "Kraj", does not require singling, one of the heaviest operations, performed largely by women who had to do the job kneeling. The new method saves as much as 40 per cent of human labour, says Director Kozera. Therefore we encourage all farmers engaged in sugar beet growing to carry out appropriate tests and entirely switch to the new method of sowing.

In order to further simplify cultivation work, we have experimented with using herbicides on plantations of strip-sown monogerm seeds. We have found out that the application of herbicides in this case is not only advantageous, but simply necessary, the more so that it results in a considerable elimination of manual work. It is worth noting that best effects were obtained with a foreign preparation named Pyramid.

Other research work carried on by Kończewice scientists covered the use of diverse fertilizers on sugar beet plantations, which were applied in varying amounts and at different times of the year. Experiments are still continued, but even now we can say with full certainty that a number of them allows to obtain a higher output and sugar content than so far.

The period of sugar beet digging is a very busy time for the Kończewice research station. A whole staff of workers is then carrying out experiments on particular sugar beet varieties which have been carefully prepared for this purpose beforehand. Root samples are weighed, placed in a mechanical rinser and afterwards cut by means of a circular saw. Samples of flesh taken at cutting are examined in the laboratory for sugar content, dry substance and other components. Only the best varieties win in the tough competition, and having been additionally checked for the yield of roots and foliage per hectare, are handed over for growing.

In order to popularize the results of their work, the research staff of the Kończewice station have made their plantations open to the public during the period of vegetation and willingly show round both groups and individuals. From that, they

organize shows, lectures and training so as to enable as many farmers as possible to get acquainted with their experiments.

## A Few Words on Wonder-working, Tasteful Herbs

Our folk literature abounds with tales and legends concerning miraculous herbs gathered by moonlight, dew-fresh, at sunrise or at midnight.

But who will today pick a flower of bluebottle, lovage or ergot. Boggy grounds are being dried, barren land — fertilized, you can hardly find bluebottle in rye. This does not mean, however, that in our country treatment of diseases with herbs is nearing its decline, just on the contrary, it is developing. The explanation is that many of the formerly wild-growing herbs are now cultivated, and bluebottle and ergot are among them (this year 1,000 hectares cultivation area of ergot has been contracted).

Caraway seed (a medicine both as a condiment added to bread, cheese, etc) ranks first with regard to the plantation area (7,000 ha), before peppermint leaves (over 6,000 ha). Coriander — a condiment used for marinades, bakery products and meat, as well as an ingredient of medicines, holds the third place. Hundreds of hectares have also been put under the cultivation of chamomile, valerian, fennel, sage, foxglove and even lily of the valley. Attention has been given again to such herbal spices — pretty common until recently — as savoury and tarragon. The long list of herbs which enhance the flavour of dishes would not be complete without traditional marjoram, fennel seed and red pepper.

Beside herb infusions and syrups which have been known for ages, new herbal medicines appear in an enriched form such as e.g. specially prepared granulates. As peppermint tea bags — packaging modelled after "express" tea — have made a spectacular career, lime flower and chamomile flower tea bags will soon be available on the market.

At present Poland has a well-developed herbs industry which runs 10 enterprises and 3 experimental research centres.

The number of medicinal herbs and spices purchased by the Polish herbs industry totals 180 various herbs, 60 of them being cultivated and 120 growing under natural conditions. The contracted herbs plantation area has topped 18,000 hectares which well reflects the importance of our herbs industry. 80 per cent of raw material — herbs is supplied to the industry by plantations, 19 per cent harvested under natural conditions (wild-growing herbs), while 1 per cent has to be imported. Every year about 4,000 tons of dried seeds and roots are delivered by herbs planters and pickers.

Poznań, Bydgoszcz and Gdańsk voivodeships can boast of the largest herbs plantations. The best caraway is said to be grown in the seaside regions. In Rzeszów, Kielce and Lublin voivodeships, where manpower is more easily available, labour-consuming herbs are cultivated over smaller areas.

## Novelties from Dairy Co-operatives

Vitaminized milk for babies and cream for sailors are the latest additions to the market offer of dairy cooperatives.

The first — vitaminized milk for babies has been prepared by dairy specialists in close collaboration with our health service and the Institute and Mother and Child Care. Besides regular ingredients found in every kind of milk powder for children, the new vitaminized milk contains additionally vitamins A, D and C. Milk of this kind has not been available on our market before. The production volume of the vitaminized milk will depend on chemists' orders, and it must be noted that so far sales have been extremely successful.

The other novelty, 20% sterilized cream in tins, is addressed to a different consumer. Because of its 3-month durability, the new cream is purchased mostly by "Baltona" enterprise supplying food to deep-sea going ships. Canned cream is perfectly suitable for long sea voyages, both as for tourist excursions and summer camping.

In recent years dairy cooperatives have greatly expanded their processing capacity, so that the current production list includes over 90 articles, such as various kinds of milk, cream, cheese, as well as other items, and among them concentrates for animals.





## Beer was known already before our Era

The origins of beer making, just as those of wine production, go back to the most remote past. We are in possession of records informing that already ancient Babylonians were familiar with the art of brewing and recipes for beer-making have come down to us from those times. Egyptians knew how to make beer of corn (barley, oats and wheat) and of bread — and do not let us forget that this was 2,000 years before our era. Also in Poland brewing boasts of age-old traditions; beer was first made by Slavs living on the River Odra and Warta. As a matter of fact, it is to Slavs that we owe "hopping", since they began to use hops for beer making as early as in the 10th century. Gradually, brewing was becoming an ever more common trade and in the Middle Ages the industry was flourishing and by the 16th century it was known throughout Europe.

In Poland the brewing industry developed mostly in southern regions; Kraków, Kielce, Opole and Wrocław voivodeships. Hence at present our largest brewing centres are Żywiec, Kocim and Tychy.

## How Poland is Called in the World

Poland maintains diplomatic relations with 80 countries and has permanent representations in the United Nations Organization and at the European Office of the United Nations in Geneva. At the same time Poland is a member of over 300 international economic, cultural, sports and other organizations. It may be interesting to learn in this context what other nations call Poland in their languages.

POLONIA — in Latin, Italian, Spanish, Portuguese, Rumanian  
 POLSKA — in Russian  
 POLSKO — Czech  
 POLEN — German, Swedish, Norwegian, Danish  
 POLOGNE — French  
 POLAND — English  
 POLJSKA — Serbo-Croatian  
 RANDO — Japanese  
 POLONIJA — Arabic  
 NGYELORSZAG — Hungarian  
 NIKIJA — Lithuanian  
 POLAN — Chinese  
 LUJO — esperanto  
 POLA — Finnish.



## Reflections on Technological Advancement

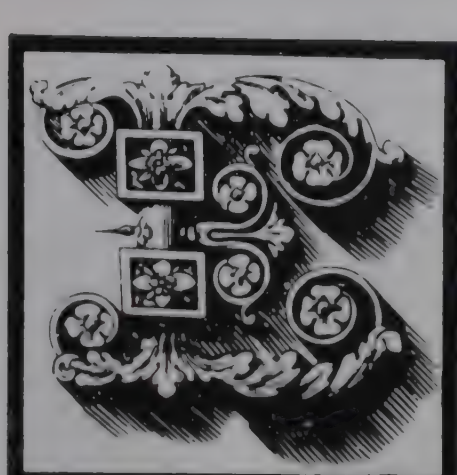
Industrial-scale livestock breeders encounter serious problems in feeding their cattle with high-protein fodder. The trouble is that if fed from a rack the precious feed must pass a long way through the ruminant's complicated stomach and much of its value is lost before it eventually gets into the abomasum.

As the natural manner of feeding has turned out to be inadequately profitable, attempts have been made to replace it by a different method.

At first high-protein fodder was introduced straight into the abomasum with the aid of a tube. Yet repeated tests proved the superiority of a baby-like way of feeding a grown-up cow, that is by means of a nipple which enables food to reach the abomasum directly. However, although more effective, this method was also found unsatisfactory.

Due to altering breeding conditions, zootechnical experts have given a great deal of attention to the question of a further change of the cattle's diet, developing completely novel, often revolutionary methods of cattle feeding. Scientific and technical progress effect profound changes in all spheres of life and leave nothing intact. In the past, to be precise, even during the young years of the present generation, a cow used to be a genuinely domestic animal. To such an extent that it happened to live in the farmhouse together with the owner, if the latter could not afford a separate cow barn. The family's cow was treated with great affection and even tenderness on the occasion of feeding and milking. The farmer's children called their cow by its name, patted it on the muzzle, while the farmer and his wife took in their cow as much pride as they would in a good, promising child. But those times of natural, non-market and non-profit-making economy belong to the past, especially in highly industrialized countries.

Nowadays a cow is but a number-labelled item in the inventory. We no longer approach it with a bundle of hay and fondly pat it on its head. The "stage properties" of yesterday have given way to an electrical milking machine, automatic water fountain, mechanical fodder batcher and, finally, an electrical slaughter device which, in a humane way, puts end to the animal's days. Still our approach to a cow, even if discussed in such terms, may



be qualified as dated and anachronistic. Today a cow is viewed as merely a device for processing live substance from its original to a secondary form, producing protein in the shape of milk and meat from cellulose and starch. Nothing but a live production device, somewhat inconvenient though, because lacking the good qualities of a machine which can be started, stopped, set to high-speed or low-speed revolutions as required. From the point of view of modern economics those disadvantages are crying to be eliminated.

Accordingly, scientists are doing their utmost to make a cow resemble a machine as much as possible, if it cannot be altogether mechanized. As we have noted above, diet is the scholar's major headache.

Formerly, a good cow was expected to be willing to eat anything, including the farmhouse straw roof in the years of starvation. The principal objective was to "stuff" a cow with a large amount of cheap economical fodder which was easily available.

A different policy has to be followed in the case of industrial-scale breeding. Here, if a high milk output or an outstanding daily weight increase (for meat-type cows) is to be obtained, an economic calculation advocates feeding cows with concentrated fodder. In this situation, the processing of grass and chaff by the cow's organism brings no profit, whereas that of starch and protein is profitable. But a cow, whose ancestors have for ages been fed mostly on grass and young tree shoots, has a digestive tract adapted to digesting quantitative fodder. Therefore, as it is nicely worded in the scientific-economic language, the progressing concentration of fodder has its biological determinant. A cow cannot be fed with mash or urea alone, it must receive hay or chaff. Is it absolutely necessary? ask breeders. On a close investigation into the matter, scientists could answer; no, it is not, a cow may do without a natural chaff, provided it will be given... a synthetic one. However odd it may seem to an average meat eater that an artificial chaff should be produced, yet let us remember that even artificial sand is made today to make possible the hydroponic cultivation of plants. And the artificial chaff in question features a great advantage; it is neither digested nor excreted from organism, one portion lasting for lifetime. The step to be taken is, therefore, to "stuff" a part of the cow's stomach called rumen with artificial hay made of the choicest plastic, which is not digested and



eliminated by the animal. The hay will mechanically stimulate the action of the vagus nerve and consequently that of rumen, thus making possible the feeding of a cow with concentrated fodder. The method has successfully passed the experimental stage and artificial hay named PT is already produced by an American firm Farmland Industries. A lifetime portion for a single cow is 1,3 kg. The invention does not mean the end of research efforts, the more so, that hay, even if obtained from plastic, smacks of imitation and is not a very refined solution from the scientific standpoint. Scientists engaged in the problem have offered another; a reticulator. It does sound better, and is said to be more effective (although more complicated as well). A reticulator resembles two mini-umbrellas (of 20 cm diameter) set on one handle. When folded, the device is but a roller, 14 cm long, 2,5 cm thick, wrapped in a digestible foil. The cow swallows the device reluctantly, to be sure, but without difficulty. Once the reticulator is in the rumen, digestive juices dissolve the wrapping and "umbrellas" unfold. The cow, cheated, thinks, "I have a full stomach today", and... digests concentrated fodder quickly and effectively, making economic indices jump for joy.

The author is probably right in thinking that it is a matter of indifference to beef consumers whether a cow which has supplied beef had her stomach filled with chaff or illusions created by a reticulator.

A consumer is likely to dismiss such reflections the more readily that no one likes to associate the sight of a tasty dish with a mental image of an animal frolicking and mooing in a green meadow. A thing that matters to the consumer is that he does not like to be cheated as the cow in question. Information carried on these pages may be indeed very helpful in safeguarding the consumer's interests.

## Polish Spruce Trees Grow in Sweden

According to the agreement which was concluded last year, in the course of the coming 5 years over one million spruce trees from forestry nurseries of the Szczecin voivodeship will grow in Sweden. Our spruce trees were first successfully acclimatized in the Scandinavian countries in 1967. The area of nurseries growing spruce trees for export totals 150 hectares.







# *What and how much should we drink*

2

We suggest to all those who are interested in alcoholic drinks exported by the Foreign Trade Enterprise "Agros" to become acquainted with a little information concerning each of the brands of vodkas and vodka drinks produced in our country and the way of serving them.

Alcoholic vodka products, exported from Poland, can be divided into the following principal groups

- unflavoured vodkas
- aromatic vodkas
- dry fruit vodkas
- liqueurs
- emulsion creams.

3

You will find further information on the most popular vodka drinks in the consecutive entries of our "encyclopaedia".

**Advocaat 25°** is the favourite drink of women. In reality it is an egg crème produced by using an emulsion from fresh eggs with an addition of cognac and made aromatic with vanilla. The high quality of eggs produced under natural conditions and the unusual meticulously homogenized mixes enable to obtain a cream of uniform consistency of an excellent taste and flavour.

"Advocaat" should be served at room temperature or only slightly chilled. It is best to serve it to black coffee and sweets.

**Bloody Mary** is the best known of the cocktails. It is made by adding Vyborova Vodka to a glass of iced tomato juice.

**Bull Shot** is an unusual and simply "exotic" cocktail. It can be prepared by mixing Vodka Vyborova with a cold beef broth.

**Cherry Vodka-Dry** (Morello cherry vodka) and Plum Cordial Dry (Plum vodka) are slightly sweetened aromatic vodkas of a pleasant fruit flavour. In other words, dry fruit vodkas, containing large quantities of juice, and infusions of morello cherry and plums.

**Cocktails** from Polish vodkas are simply excellent. We consider Vodka Vyborova as the best for making cocktails.

Furthermore, the best are Cherry Vodka Dry 40° and dry Cherry Vermouth 40° and for ladies — Polish Cherry liqueur 25°.

4

**Delmonico** — is an excellent vodka aperitif. We recommend Delmonico to those who like weak vodkas. Delmonico-aperitif has a slightly bitter taste. It is prepared with an addition of fruit juices, herbs and is refined with an addition of grape wine of Vermouth type. Owing to the additives mentioned above, Delmonico, which is a beautiful brown in colour and has an excellent smell is a drink ready to serve. It tastes best after being well chilled. It is served with crushed ice in cocktail glasses and with a slice of lemon.

The same proportion of Vodka Vyborova can be added to Delmonico in order to make the mix stronger and make it completely different.

The large and original assortment, the excellent quality and the packaging which is on a world level enhance the value of Polish vodka products. These products won gold and silver medals at international competitions and Olympic meets at Lublyana, Brussels and Leipzig.

**Extra Rye Vodka**, 40 or 50° — is a bitter vodka, most frequently colourless or yellowish produced from pure rye alcohol of special savoury properties with a small additive of apple or Morello cherry distillate. It is best drunk straight, chilled in small glasses as a "short drink".

**Goldwasser** 40° — is an excellent Gdańsk spicy herbal liqueur known throughout Europe, prepared according to old Polish recipes.

Goldwasser is characterized by the feature that there are small herb flakes floating in each bottle. The name "Goldwasser" is precisely derived from these.

Goldwasser should be served slightly chilled, together with black coffee and cakes.

**Rowan Vodka** 40° is a berry vodka of a pleasant flavour and bitterish taste obtained from the addition of rowan berries (*Sorbus aucuparia*) gathered when the first frosts appear. Rowan vodka belongs to the group of aromatic vodkas, that is dry, produced from rectified alcohol with various additives.



Rowan Vodka is a typically Polish vodka of over 200-year tradition, especially in the southern regions of the country. This vodka is light brown in colour. Its taste and aroma is somewhat reminiscent of the bitterish rowan fruit, made milder by a small addition of sugar and more refined by adding wine distillate of the highest quality. Rowan vodka tastes best after a slight chilling. It is most often used to meat and meat dishes.

The only Polish distillery in Cieplice furnishes alcohol for the production of Vodka Vyborova, the export "hit". As we know, this vodka enjoys great popularity among foreign consumers.

Polis vodkas, beers and mead drinks were not only known but were popular already in the 11th Century in Poland. This is testified by the fact that the Polish king Bolesław Chrobry already in the year 1000 assured the newly founded Gniezno Archbishopric, a permanent income by imposing the so-called "tithes" for a liquor licence on the expansive territory of his country.

**Liqueurs** — have their tradition of many years. They were produced in Poland already in the Middle Ages and are produced up to now according to the same traditional recipes but using modern technology and the best raw materials — fruit, meads, herbs and seasoning.

Cherry Cordial 40°, Cassis 35° (black current), Blackberry Liqueur 35°, Old Krupnik (Polish Honey Liqueur) 40°, the famous old Polish spice liqueur, Cacao Choix—50° British per cent (28.6°), Goldwasser 40° are the most popular.

**Luxury Vodka 45°** — Luxury vodka is produced from rectified potato alcohol of the highest, luxury quality. It is an absolutely pure vodka, colourless of a delicate savour, similar to vodka vyborova. It is excellent for drinking straight and also in cocktails.

Please remember also that all the vodkas exported from Poland have a common trade-mark "Polmos".

The last primeval forest of Europe is in Poland and the unusually rare grass (*Hierochloe Odorata*) — a sweet scented grass, a bison dainty, grows in the Białowieża forest. Precisely this real wildly growing grass gives the wonderful and delicate aroma to the Bison Brand Vodka 40°.



#### Our instructions on How to Relish Polish Vodkas

**Vyborova Vodka "on Rocks"** — pour 3—4 ounces of cold vodka on ice cubes in an Old Fashioned glass and serve.

**Screwdriver** — pour 2 ounces of cold vyborova vodka on two ice cubes in a "highball" glass, fill with orange juice and mix well, getting a delicious and refreshing cocktail.

**Vodkatini Dry** — mix vodka vyborova with dry Vermouth in a mixer with ice, strain into cocktail glasses and serve with a green olive or small onion.

**Bitter Bison** — pour Bison Brand Vodka and Vodka Vyborova on ice cubes into a glass with a thick bottom. Add sweet Vermouth and a little lemon juice.

**Dolores** — pour on ice cubes in a high glass Morello Cherry Vodka, Vodka Vyborova, dry Vermouth and a little rum. Serve with an orange or lemon slice.

Polish vodka drinks owe their unusual world rank primarily to:

- excellent choice of raw materials (natural exclusively),
- excellent professional personnel with experience of many years,
- modern technological methods used in their production,
- careful supervision, carried out both during production and during the time batches are being prepared for export.

Well rectified alcohol is the basic raw material used for the production of all Polish vodkas and liqueurs. The alcohol used for the production of Vodka Vyborova is made of a mix of diverse varieties of rye with selected yeast varieties, then rectified several times (at least twice) by means of modern rectifying apparatus. The water used to dilute the alcohol has definite properties. In order to get the required mildness and mellowness of diluted alcohol, it is submitted to a process of rectification, which consists in using activated carbon and filtration through various kinds of filters, obtaining as a result a product of the highest quality.



**Starka — Very Old Vodka 50°** — is the oldest Polish vodka, prepared for many centuries according to old recipes. It is prepared from a carefully distilled rye alcohol. By prolonged mellowing in storage in oaken barrels Starka then assumes a special savour and aroma similar to whisky, and it is therefore frequently called Polish whisky.

The alcohol used for the production of Starka is produced from special varieties of rye. After Starka has been mellowed in storage, it is seasoned with an additive of excellent old wine and poured out into special bottles. Starka, thus prepared, is a bitter vodka of natural light brown colour and refined specific aroma. Starka, considered to be one of the best world drinks, has also won the mark of highest quality "Q". Starka is best drunk in cognac glasses and obviously chilled.

**Sliwowica — Plum Brandy** — is one of the vodkas most in demand in Europe. It is produced according to traditional methods from plum alcohol, which mellows in storage in oaken barrels for several years. Polish Plum Brandy has a milder savour and aroma than products of this kind prepared in other countries.

Plum Brandy has a natural golden-brown colour. It must be chilled before serving. It is best to drink it in small wine glasses.

**Trianon** — is an excellent cocoa-egg crème, produced in a similar way as "Advocaat". Trianon crème is poured in exceptionally attractive stone-ware jugs, decorated with folk designs, which are a pretty ornament of every elegant table.

**Honey Cherry Brandy 38°** is a typical Old Polish Morello Cherry liqueur, sweetened by the best honey of forest bees. It is made of pure alcohol, honey and Morello cherry juice with aromatic additives, which give it its unequalled savour and aroma.

**Cherry Cordial 40°** is one of the most known Polish vodkas served throughout the world in the most elegant bars, restaurants and hotels. Produced by using the juice of Morello cherries known for their aroma it is distinguished by its excellent colour, similar to that which red wines have. Cherry Cordial is excellent for making mixed drinks (cocktails). If the buyer wishes, each bottle of Cherry Cordial can be supplied with a label with the standards provided by the Polish Standardization Committee.



**Bison Brand Vodka** — is a very popular vodka since the last war. It is made aromatic by a grass (*Hierochloe odorata*), growing wild in the Bialowieza Forest, in the eastern part of Poland. This grass has a specific delicate aroma giving the aromatic and savoury properties characteristic for Bison Brand Vodka.

This grass cannot be cultivated artificially, since it loses its unusual properties.

Bison Brand Vodka is light green in colour, has a delicate aroma and original taste. A piece of the original grass is found in each bottle of Bison Brand Vodka.

Bison Brand Vodka is the favourite vodka of hunters. The vodka is an excellent additive in the preparation of various cocktails.

The Lubusk Factory of Quality Vodkas of Zielona Góra is one of those that produce alcoholic drinks, with which the greatest gourmands cannot find fault.

All the alcoholic drinks, and there are over 40 brands, are produced from natural fruit semiproducts. The factory is the biggest in Poland and one of the biggest in Europe. Hence, it is no wonder that the produce is not only known at home but also abroad. Five kinds of quality vodkas produced in Zielona Góra have received the mark of the highest quality. One of them, Rowan Vodka — is marked with the letter "Q". That means the highest quality in international evaluation. Rowan vodka received this evaluation at the international trade tasting held in Lublyana in Jugoslavia, thus winning the gold medal.

"AGROS" — is the Foreign Trade Enterprise, which is the sole exporter of vodkas from Poland. Its address is as follows:

"AGROS"

Żurawia Street 32/34, Warsaw. Poland,  
Tel. No. 21-64-21.

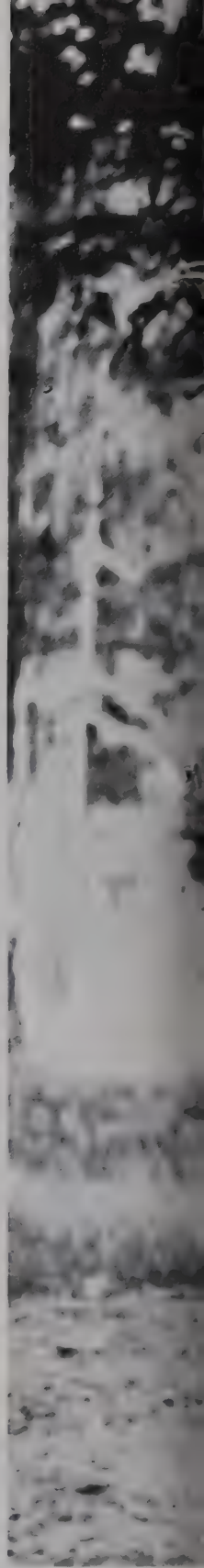






# BIALOWIEŻA

## FOREST



Poland was known in remote times as a country with forests full of game animals, a paradise for hunters. The bear, the humped auroch, the gloomy bison, forest tarpans, elk, stag, the nimblefooted deer and the impetuous boar — hid themselves in the forest backwoods. The forest furnished meat and furs. The lakes and the swamps constituted the lands of wild birds.

The hunts of great lords, their feasts and entertainments were famous throughout Europe.

And although remote times have gone, the forests and woods have vanished, there is in the eastern part of Poland a tract of ancient forest which has remained in an intact state until the present — Białowieża Forest.

The beauty of the autumnal landscape of the virgin forest is overpowering — it runs for dozens of kilometres, with trees reaching a height of 40 and even 50 metres, With trunks that 4 persons hardly encompass, vegetation of an immense diversity of species shapes and colour.

The inaccessibility of the forest in many of its recesses, the difficulty of crossing through little frequented parts, create an unusual touring attraction.

The animal world here is very diverse — bison, deer, boars and bears, lynx, badger and ermine.

..... Here King August III arranged in 1752 the biggest hunt in the history of the Forest. Two hundred bison fell then. At present Białowieża is the greatest habitat of these animals in the world. There are 190 there (all of Poland has 229 and there are about 500 in the entire world).

The modern man, tired with the rush of life, craves peace and quiet, appreciating the merciful role of the forest, its salubrious features.

And that is why Białowieża Forest draws crowds of tourists from the country and from abroad, making thereby the name of Poland and the charming landscapes famous. THERE IS NO SUCH OTHER....

There is today no more such corner on the map of Central Europe. Białowieża





Forest with its superb tree stands, characteristic for lowland forests and rare specimens of game (here has remained the great bison for centuries), creates a natural biological laboratory, which is an irreproducible monument of nature. Obviously not the whole forest, but only those parts which have purposely been kept for the last half century as a close reserve and later as a national park.

The oldest national park in Poland covers today an area of over 5 thousand hectares. It consists of a strict forest reserve lying between the River Narewka and its tributary Hwoźna at a distance of a kilometer from Białowieża. The eastern boundary of the reserve coincides with the state boundary line with the USSR. The narrow patches of the fields of the local farmers touch upon the southern walls of the reserve. Moreover, the National Park is also composed of the Botanical Park (founded at the Tsarist Palace, nonexistent today in Białowieża) and two bison reserves. Owing to the national park, Białowieża is probably the only village in Poland where

there are headquarters of four scientific posts — subordinated to the Research Institute of Forestry, to the Polish Academy of Sciences and to the Polish Institute of Hydrology and Meteorology. Białowieża is mentioned as a place where two important scientific periodicals are published. Here on the areas of the national park and in the economically exploited part of the Forest, there are 25 scientific centres from throughout the entire country, conducting research here. There is a Forest Museum in Białowieża since 1929, exhibiting rich collections of forest fauna.

There are 190 bison, 30—35 lynxes, 80 elks and several odd wolves living in the reserves and in freedom. The centre, formed in Białowieża, for the breeding of rare forest animals, rendered great services in preserving the variety of the lowland bison. Let us add that an International Society of Bison Production has been formed, with its headquarters in Warsaw, to save this dying out species. The Society also keeps pedigree books for all the bison living throughout the world.

Many old trees of unencountered dimensions have also been preserved in the national park reserve and in the utilized part of the Białowieża Forest. There are 600—700 year-old oaks, linden trees of 300—400 years, specimens of 450-year pines, interesting examples, of spruce, elms, hornbeam and alder.

The guides that take around sightseers, will undoubtedly conduct us to the powerful "Jagiello's oak", which is supposed to be the oldest tree in the Forest. The oak is 39 m in height and over 6 metres in diameter. The moss-grown hollow trunk has grown out into gigantic branches. A branch that had been torn off by a hurricane measured 29 m. Legend says that King Jagiello rested under this tree the year preceding the great Battle of Grunwald.

He was then hunting with the Great Prince Witold for aurochs, bison, elks, deer, boars and bears. The supplies from the meat of the hunted game were later taken as provisions for the Polish-Lithuanian army. Almost all the Polish kings had hunted in the Forest.

F. Kotowicz





# Rabbit





The "Polcoop" Foreign Trade Enterprise, Poland's leading exporter of deep-frozen rabbits, initiated its deliveries of rabbits in 1958. Polish rabbits won the British market and this line of the Enterprise's commercial activities has been successfully developing ever since. The fine quality of our rabbits is highly appreciated by foreign consumers and as a result the Polish exporter faces a steadily rising demand for this article.

The "Polcoop" Foreign Trade Enterprise offers farm-bred rabbits which are characterized by outstanding nutritive value and taste. Their meat, easy to digest, is commonly served in

the "Polcoop" Foreign Trade Enterprise strives to further enrich the assortment in order to fully meet their customers' needs.

And thus in addition to whole deep-frozen rabbit carcasses, our export offer involves;

— **chilled rabbit carcasses**

Slaughtered rabbits, without head and legs, skinned and gutted, with liver, kidneys and lungs. Their meat is light and clear in colour. Carcasses are chilled to a temperature of  $+6^{\circ}\text{C}$  and placed (without bags) in cartons lined with parchment. Each carton holds 20 kg net weight. Holes in cartons are not covered.

# meat

hospitals, sanatoria, being recommended by doctors to persons who must observe a strict diet, to convalescents and young people. Owing to these properties of the rabbit meat, as well as to timely implementation of deliveries, the "Polcoop" Foreign Trade Enterprise continually broadens its commercial contacts. At present the list of buyers is made up of 10 European countries and the U.S., the principal markets being Italy, the German Federal Republic and Switzerland. Parallel to the quantitative growth of rabbit-meat exports,

— **rabbits in parts**

On European and overseas markets the demand is growing for food articles prepared in such a way as to enable housewives to prepare meals quickly and without extraordinary effort, for instance, meat and poultry in parts, ready-cooked dishes (full breakfast set, lunch, etc.) In response to the worldwide trend, "Polcoop" has undertaken the production of rabbits in parts, packed in a variety of ways, namely;

a) **rabbits in parts packed in hostaphan bags**

The whole carcass is divided into 3 parts, nicely formed, wrapped in bags of hostaphan foil, which are hermetically sealed through removing air by means of POLY-CLIP machine.

b) **rabbits in parts, wrapped, on "Foodtainer" trays**

The whole rabbit is divided into parts (saddle, legs, etc.), placed on a tray which is wrapped in foil and heat-sealed by "Cryovac" machine. Each tray weighs 1 kg.

c) **rabbits in parts, packed in retail cartons**

Small rabbits of good musculature are chosen for this purpose. Each rabbit is cut into 8 parts and packed in a polyethylene bag which is next put into a small carton remarkable for its attractive lithography. A specially designed packing machine wraps the carton in foil. Outer packaging consists of large cartons holding 15 kg net weight.

Rabbit meat prepared in the above way (considered to be the most enriched form of preparation) is greatly sought after on the U.S. market.

Apart from it, the "Polcoop" Foreign Trade Enterprise has introduced new packaging for whole rabbits, replacing polyethylene bags with hostaphan foil bags. This kind of packaging is particularly popular with buyers in Switzerland and the German Federal Republic, since it allows to present merchandise in the most advantageous way.

The "Polcoop" Foreign Trade Enterprise is involved in intensive market research, being always ready to adjust its export offer to customers new tastes and requirements, as well as to make new market suggestions of its own.



For twenty-two years



has been performing services for customers abroad



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57  
**FOOD**

*from Poland*

Review of Exports of Agricultural Products and Foodstuffs

N. 2(37)





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**Our cover**

In the cow barn

Painting by Józef Brodowski

National Museum, Warsaw

Józef Brodowski was born in Warsaw in 1828 and died there in 1900.

His father Antoni was an outstanding representative of Polish Classicism in painting

Józef Brodowski studied at the Academy of Fine Arts in Warsaw under

Rafał Hadziewicz, then he attended the Academy in Petersburg and finally he worked

under Horace Vernet in Paris.

He produced genre pictures, portraits, and battle

Well known also are his pictures of the Polish

romanticism and academicism. His work is in the

# INTERNATIONAL TRADE CELEBRATES ITS ANNIVERSARY







Fifty years ago in the old Polish city of Poznan, which gained its commercial importance in the Middle Ages due to the fact of its location on the crossing of trade routes of Europe of these days, the Poznan International Fair was set up.

Within a short time the picturesque fair grounds become a place of commercial meeting and started to attract an ever growing number of exhibitors from abroad.

Today the Poznan International Fair bring together several thousand exhibitors from 40 countries of all continents. In indication of the international character of this event is the fact that more than 50 per cent of the fair ground area is taken up by foreign exhibitors of whom many exhibit their offer within a national, collective pavilion. Such a phenomenon is not prevailing at other fairs.

The 40-th consecutive Poznań International Fair, which will be held from June 13 to 22, this year will again attract not only many exhibitors in various branches but will also be the place of a commercial rendez-vous of exporters and importers, makers and technicians, official governmental delegations and heads of vast industrial corporations. Next to businessmen the Poznan Fair will service also international economic organizations. For example UNIDO will have its own pavilion. This fact is an indication of the importance attached by economists to the Poznan event as a useful place for various contacts including practical training. It should be stressed that the Poznan International Fair is a founder member of the Union des Foires International (UFI) which is a further indication of Poznan's international rank.

The programme accepted for the Polish exhibition at the XL Poznan International Fair provides for the presentation of the full export offer of Poland's industry. This offer is a proof of Poland's

economic potential. Next to traditional fields of Poland's industry such as the agricultural and food industry, durable consumer goods industry, the products of which some tens of years are known to clients in many countries, the Poznan event will be an occasion for the presentation of the effort of engineering, heavy and chemical industries. Thanks to the purchases of foreign licences and to the constant rise to affluence of Polish scientific and technical thought, which springs from up-to-date training of engineering staff, the industries of these branches are ever widening their offers and take up ever more numerous contacts with leading West European firms in the line of industrial cooperation and coproduction earmarked for third markets.

In the branch of the agricultural and food industry one notes a marked shift in the direction of the technological modernness of the products and of the packing. The previously dominating part played in the offer of Poland's food industry by food raw materials has been at present taken over by highly processed and improved products.

Since a number of years in its development and technical arrangement Poland's economy is laying special stress on expansion of foreign trade, the adjustment of the Polish offer to the requirements of foreign markets and on the taking up with commercial partners abroad of permanent cooperation.

The recently carried in many branches of Poland's foreign trade organizational changes in the form of a direct linking of production operations and commercial exchange with countries abroad into one management will be favourable for a more effective dealing with the requirements of our contracting parties and will facilitate the taking up of international contacts. This will contribute to the increasing of the importance of Poland's economy as a valuable partner in foreign trade in

the international division of work and will bring the foreign buyer closer to Poland's industry. The aim of the many economic steps now being taken are to modernize the Polish economy to more fully match the pace of world technical progress and to more widely include the achievements of science in production.

The Poznan International Fairs are a good occasion for exhibitors from abroad to present their technical achievements connected with an offer of goods in the form of symposiums, lectures and branch meetings.

The management of the Poznan International Fair has created a practical platform for this activity through the specialistic Technical Information Office. Also in the agricultural and foodstuffs branch a number of interesting pronouncements on the subject of the latest achievements in the technology of production and exploitation will take place. The international meetings of prominent specialists add further importance to the Poznan event not only as a meeting place of businessmen but also of technologists. The connection between international trade and production and its constant modernization is today especially close. This lively flow of commercial events attracts to Poznan annually many foreign specialistic journalists and of the economic press. Also the Polish press gives much space and attention to this event.

The successive 40-th International Poznan Fair will take place in an atmosphere of various forms and planes of economic activity.

On an area of more than 135,000 sq.m of which over a half will be taken up by foreign exhibitions will meet again businessmen from several dozen countries.

We have good grounds to recommend the XL Poznan International Fair as an important link in international trade.

*Jerzy Żeliszewski*

# POZNAN



The Polish Academy of Sciences was set up—in agreement with a decree of the Sejm—to ensure for Poland's science the necessary conditions for an all-round development. Within the range of its tasks the Academy acts as the chief state organ, is the permanent advisor of the Government in matters concerning science and the main organs of the state's administration consult the opinion of the Academy on all vital matters concerning the state and development of science. Within the Academy of Sciences operate six departments of which the V-th Department is that of Agricultural and Forestry Sciences. The V-th Department has 12 committees coordinating scientific branches in the line of agricultural or forestry problems as well as problems closely connected with them. Today we will acquaint our Reader with some of the committees, the scientific and research activities of which are closely linked with the present production and development of Polish food.

The Editors

# In the Workrooms of Polish Scientists



## FOOD TECHNOLOGY AND CHEMISTRY COMMITTEE

The Food Technology and Chemistry Committee was set up in 1952. Its organizer and chairman until 1968 was Prof. Dr. E. Pijanowski and next Prof. Dr. A. Rutkowski. Among the main tasks of the Committee are the elaboration and to give an opinion on the perspective plans for the development of science, the coordination of basic research and the care of their realization as well as the initiation of scientific cooperation in the line of technology and chemistry of food with institutions abroad.

In its work the Committee gives attention primarily to the raising of the standard of the personnel and the development of scientific institutions and in the research carried on that high quality food products be obtained with the use of up-to-date technological methods.

### How does the Committee organize scientific life?

We asked Professor Rutkowski.

The Committee has big merits in the organization of scientific life in Poland in representing Poland's achievements at events of an international character. I was the organizer of the V-th Congress of International Society of Fat Research (Gdańsk 1960), of the VII-th Symposium of the Comision Internationale des Industries Agricoles et Alimentaires dedicated to foreign matters in food (Warszawa 1965), played an active part in the organization of the II Congress of Food Science and Technology (Warszawa 1966) — the largest event of this type to be organized in Poland, which gathered 1500 participants from 58 countries. Moreover, the Committee has organized a number of scientific symposiums in which, next to Polish specialists, participate scientists from abroad. These were dedicated to the following problems: biochemistry of starch (Kraków 1957), antibiotics in food (Warszawa 1957), advancement in the technology of smoke-curing of animal products (Gdańsk 1958), Vitamin B (Poznań 1959), the sugar industry (Łódź 1962), biochemistry of food and nourishment (Łódź 1963), chemistry and technology of rape seed oil (Gdańsk 1967).

The said conferences and symposiums create a platform for a wide exchange of opinions and scientific discussions which contribute to the taking up of direct scientific cooperation with research workers at home and abroad. They present the achievements of Polish national thought, contribute to the raising of the professional qualifications of scientific workers and to the better and quicker realization of research.



### **Of what kind is the Committee's influence upon the realization of research work?**

The committee has no own research centres thus it influences research work as a coordinator and a consultee of the country's research work programme. The Committee gives financial assistance to research workers who carry on research in vital fields, such as, for example, controlled enzymatic processes in the technology of food quality and the influence of technological processes upon the quality of food in production.

In addition, the Committee carries out a constant analysis of the progress made in research in Poland in the field of food technology and chemistry and elaborates its prognosis up to the year 1985. To facilitate research, since 1962 the **Register of findings of research completed in the line of the agricultural and food industry** is published annually.

This is a joint publication with the ministries of the Food Industry and Purchases and of Education and Schools of Academic Rank. The Register lists the research work completed in the line of food technology and chemistry. This makes possible better coordination of research and its fuller putting to use in the developing food industry and better nourishment of the population. The Committee publishes also Food Technology and Chemistry Annuals. So far 20 volumes have appeared. They contain more than 200 works which represent the achievements of Polish scientific thought in this field.

### **Could you tell us Professor what are the Committee's plans for the nearest future?**

At present scientific symposiums are being prepared for the next few years. These will be dedicated to proteins and the role of water in food technology (1972 and 1973). In 1972 the annuals published by us will be transformed into a quarterly. We are livening up the activities of the section engaged in the chemistry and technology of pharmaceutical processes. The main task of the Committee is to represent our branch of science at the II Congress of Polish Science, which is to be held in 1972.

## **VETERINARY SCIENCES COMMITTEE**

Professor Dr Abdon Strzyszak, full member of the Polish Academy of Sciences, Director of the Institute of Infections and Invasive Diseases of the Main School of Farming in Warszawa, author of many scientific papers including "Epizootiologia Ogólna" (General Epizootiology) and "Zarys Badania Ryb i Przetworów Rybnych" (Outlines of Fish and Fish Products Research), is chairman of the Committee. For his achievements in this field Professor Strzyszak received many awards and distinctions and, in recognition of the ansamble of his scientific and research work, the Veterinary Academy in Hannover (the German Federal Republic) conferred on him on August 14, 1963 the title of Doctor Honoris Causa.

This is what he told us about the work of this Committee.

In 1954 the Commission of Veterinary Sciences was set up under the chairmanship of Professor Dr. Aleksander Zawadzki. It operated till 1957. In May of that year the Commission was transformed into the Committee for Veterinary Sciences attached to the Department of Agricultural and Forest Sciences of the Polish Academy of Sciences. Until 1968 it was headed by Professor. Dr. Józef Kulczyński and in 1969 the chairmanship was taken over by Professor Dr. Abdon Strzyszak.

Eminent representatives of Polish science of all Veterinary Departments, of Agricultural Schools of Academic Rank, of the Institute of Veterinary representatives of the Ministry of Agriculture and Ministry of Education and Schools of Academic Rank became members of the Committee. The Committee consists of 35 scientists whose main task is to ensure a proper development of veterinary sciences in Poland.



### **What work is the Committee carrying on at present and what are its tasks?**

The Veterinary Sciences Committee gives its opinion on the scientific-research plans elaborated by all the veterinary institutions in Poland. The Committee's suggestions and desiderata are presented to the Interdepartmental Commission set up for the appraisal of scientific research. The Committee supports and finances in part research of key importance to Poland's science. The Committee is engaged in the organization of an exchange of scientific opinions by means of conferences, symposiums and personal direct contacts.

In its activities the Veterinary Sciences Committee has organized 21 more important scientific conferences in which scientists from abroad participated. It is in constant contact with scientists all over the world. In recent years 32 scientific workers visited veterinary institutions abroad, including ones in France and in Sweden. On the other hand, scientists from all the socialist countries and from Italy, Sweden, France, the German Federal Republic and Great Britain visited us. Moreover much of the work of the Committee and its sections is being popularized in veterinary specialistic publications and in publications of the Polish Academy of Sciences.



## **PLANT RAISING AND CULTIVATION COMMITTEE**

Professor Dr Anatol Listowski, full member of the Polish Academy of Sciences, the renowned expert in the physiology of the development and cultivation of plants and author of many scientific papers (including a monography of the development of plants), is the chairman of the Committee.

The Committee has 15 sections. These are engaged in the following fields of science: physiology, genetics, cultivation of cereals, maize, potatoes, root vegetables, pulse crops, fodder crops, oil plants, fruit-growing, meadow cultivation, special and decorative plants; biology of seeds and storage.

The sections mentioned and the Scientific-and-Technical Council operating at the Ministry of Agriculture, give their opinion on the research plans of scientific institutes, regional, research centres, provincial national councils and of chairs of agricultural schools of academic rank.

During the more than a dozen years of its activities the Committee has organized tens of scientific symposiums dedicated to the raising and cultivation of plants.

The Committee has research teams engaged in more important problems of national economy, including a team studying the influence of rainfalls on crops and the influence of rainfalls on crops and the remunerativeness of these operations.

There is also a team for carrying on research in the raising of such varieties of lucerne which, in our conditions, will yield good quality seeds and a biology of seeds team which studies the influence of conditions on their storage.

Our farmers have become used to cultivating "a little bit of everything", which is the most costly and work-consuming system of farming, and that is why we want to popularize specialization of farms. With this aim the Committee studies the experiments carried out by agriculture in England, Denmark and by agriculture in the German Federal Republic where the climatic conditions are the most resembling ours.

The Professor ended by saying: "We forecast also the cultivation for the next several dozen years and are particularly engaged in the specialization of farms, rotation of crops and interested in the immunity of plants to diseases and the influences of climate.





## ZOOTECHNICAL SCIENCES COMMITTEE

Professor Dr. (Eng.) Kazimierz Gawęcki is chairman of the Zootechnical Sciences Committee of the Polish Academy of Sciences. Professor Gawęcki is also director of the Institute of Feeding and Fodder Economy of the Agricultural High School in Poznań and chairman of the Scientific Council of the Central Laboratory of the Egg and Poultry Industry.

The Zootechnical Laboratory was set up in 1957 and Professor Dr. Mieczysław Czaja, at that time Secretary of the V Department of Biological and Forest Sciences, was elected its chairman. The Committee is one of the largest committees operating within the V Department of the Polish Academy of Sciences, both because of its scope of interests embracing, broadly speaking, the entire field of zootechnics and because of its numbers, as it has 45 members.

The Committee is a permanent organ of the Polish Academy of Sciences for the influencing of development of zootechnical sciences on a national scale and, as other departmental committees of the Polish Academy of Sciences, is a national representative of this field of science.

The Committee carries on its activities through its four permanent problem teams, namely: publishing, prognoses, international coordination and home coordination, and through 11 specialistic commissions: genetics, feeding, cattle breeding, pig-breeding, sheep-breeding, horse-breeding, poultry farming, fur-bearing animal breeding, for useful insects affairs for fishing industry affairs and a zoohygiene commission. In addition to members of the Committee, also prominent and scientifically and organizationally active scientific workers of universities and scientific institutes, representatives of responsible economic departments, outstanding practitioners are members of these commissions. The number of members in all the Committee's commissions is more than 130 persons. Thus it is a large collective body with the assistance of which all problems of interest to the committee may be satisfactorily comprehensively elucidated, discussed and elaborated. At the same time this numerous representation of Polish zootechnics makes possible a deep penetration of the Committee's scientific inspirations into the individual scientific centres as well as the upholding of a lively contact with them.

The composition of the committee and of its organs, its representativeness and authoritativeness permit a proper carrying out of its many statutory tasks.

The Committee has considerable achievements in the form of a number of works of which especially valuable is the recently published elaboration entitled "Stan i rozwój nauk zootechnicznych w planie perspektywicznym 1967-1985".

and Development of Zootechnical Sciences in the Light of the Perspective Plan 1967-1985). The conclusions reached on the basis of the elaboration presenting the prognosis and key problems in the perspective plans for the development of zootechnical scientific-research work have been approved by the Committee and may be the basis for the future policy in zootechnics.

The Committee cooperates with departments of the Ministry of Education and Schools of Academic Rank and of the Ministry of Agriculture.

It also bears an influence, by means of expressing opinions on drafts of plans or by assessment of the achievements of individual scientific centres after substantial discussions, upon the directions of research undertaken. Having a discernment of the whole of the research being carried out at the present time, the Committee is able to stimulate and finance poorly developed, yet necessary, studies and to initiate new, especially so-called vanguard, research which is necessary for the assurance of a perspective development of zootechnical sciences, as well as for the introduction of a rapid progress in this field.

Individual specialistic commissions of the Committee annually organize in a different scientific milieu sessions dedicated to both methodologic problems as well as to present problems in production. This is a form of work widely applied by the Zootechnical Sciences Committee. It is considered as particularly advantageous and effective in the livening up of scientific discussions and in the influencing of the development of science.

The Committee assesses the home publishing work in the line of the zootechnical press both scientific and popular-scientific. On the other hand the editing of the "Roczniki Nauk Rolniczych PAN Seria Zootechniczna" (Polish Academy of Sciences' Annuals of Agricultural Sciences, Zootechnical Series), monographs and "Zeszyty Problemowe Postępów Nauk Rolniczych PAN" (Polish Academy of Sciences' Fascicles on the Problems of Progress in Agricultural Sciences) in which are published lectures and scientific reports delivered at symposiums and organizational sessions of the Committee's individual commissions. The range of the Committee's work embraces also the keeping up of scientific contacts with institution abroad, patronizing the international cooperation in research of Polish scientific zootechnical centres.

In its activities as a whole the Zootechnical Sciences Committee aims at the creation in zootechnical scientific institutions conditions favourable to the elaboration of scientific-and-technical solutions indispensable for such future development of animal breeding which will be able to satisfy the demands of our country's growing population as well as the future needs of exports both of breeding animals and animal products.

The constantly increasing in our country share of animal products in general consumption as well as the marked changes in their future structure make these tasks all important. Thus the Committee for a number of years now is giving special care to research work concerning: the improvement of the value of slaughter cattle, pigs and poultry, defining of the favourable conditions for mass animal production, the rational utilization of the home fodder base and, of late, the recognition and prevention of harmful effects which may be produced in animals by the application in agrotechnics of intensive lime nitrogen fertilization and of chemical pesticides and weed killers. For progress in the solving of these problems will undoubtedly bear a vital influence on the future of animal production and its quality.

Interviewed by Władysław Oryl

# The new

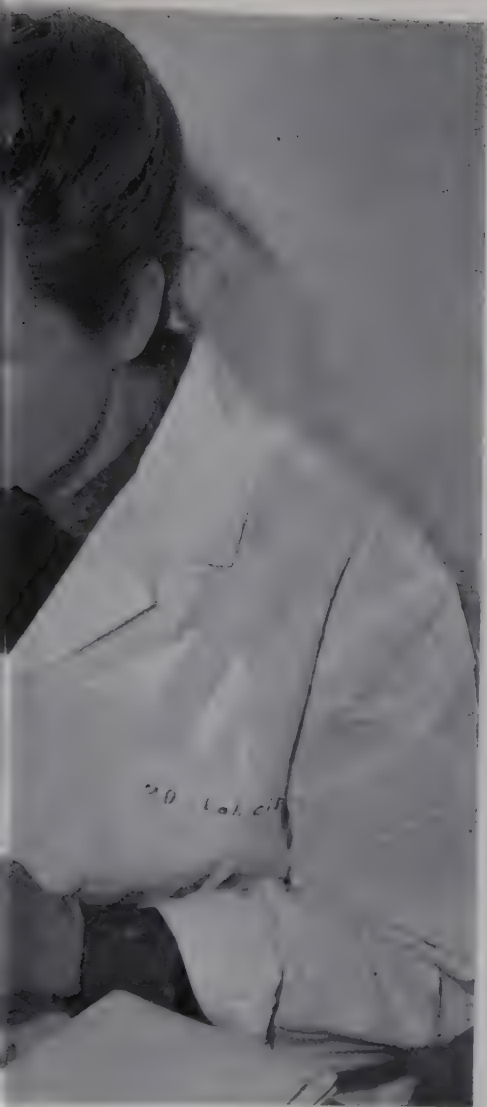


Anybody who closely follows the development of the Polish export of food and agricultural products is aware of the part played by the Quality Inspection Office (CIS). The handing over in 1970 of a new building to the CIS Laboratory in Gdynia inspires us to pay some attention to the analytical angle of the official control of imported and exported foodstuffs.

The CIS Laboratory, which is located in the close vicinity of two important Polish harbours — Gdynia and Gdańsk, exists already 23 years. Its development is closely connected with the growth of the Polish international turnovers in many food articles. The Laboratory first operated in small premises of the Technical Higher School in Gdańsk, then, for some years, it occupied a part of the Foreign



# CIS Laboratory in Gdynia



the Laboratory. Before approaching the actual subject may we remind the Reader of the Laboratory's main tasks. They are strictly connected with the complex business of the CIS. They concern — in general terms — the standardizing control of food products earmarked for export and drawing up the certificate of standardization. The latter is an indispensable document for the exported food products. The quality control of imported food products is the second important field of CIS activities.

The analytical results are an important objective support and supplementation of the quality control of different kinds of foods carried out by CIS experts. To properly explain the Laboratory's tasks as a whole, the basic rules of procedure should be pointed out first. It should be emphasized, that all analyses are carried out here on the basis of commonly accepted analytical methods which have been defined by proper standards and rules.

The large library consists of the latest literature in various languages and professional periodicals from all over the world, as well as of a collection of analytical methods elaborated by many universally recognized specialistic organizations. The following sets of documents included in the library's collection, should be mentioned:

European Brewing Convention (EBC) — analytical methods for brewer's barley, malt and beer, International Union of Pure and Applied Chemistry (IUPAC) — analytical methods for fats and oils as well as contaminants and other trace substances, International Organization of cocoa and Chocolate (IOCC) — analytical methods for cocoa and chocolate, International Union for Fruit Juices (IFJU) — analytical methods for fruit juices and many others.

Trade Enterprise Building in Gdynia. Now it has attained work conditions which are both adapted to the ever growing current tasks and plans and ensure reliable, exact and quick analyses for the foreign partners. Since 23 years Mr W. Dobrzyński is the manager of







The methods of analysis of FAO/WHO Codex Alimentarius and of International Organization for Standardization — Technical Committee Agricultural Food Products (ISO TC 34) are of particular importance. The quality assessment of food articles being put on world markets has to be based upon the standards of these. The Laboratory's experts in different kinds of food cooperate in the drafting of several documents.

A careful statistical examination of every method precedes its practical application. This makes possible to switch over from the well known traditional methods to the most modern ones — according to the present scientific trends. International standardization as well as direct contacts with foreign partners lead to the uniformity of analytical methods applied both in the country of the importer and in that of the exporter. This fact is of particular importance in the line of food products. The repeatability and reproducibility of the methods are an important factor for trade purposes.

It would be of course quite

impossible to present in this short information all details about the Laboratory's daily work. The information amounts therefore to no more, than the most important Laboratory's tasks. It should present a general picture of main tasks and present problems.

The chemical division handles the analysis of a number of food products. The following principal groups should be mentioned: processed fruit and vegetables; brewer's barley, malt and beer; milk and milk products, egg products, meat and fish products, oils and fats.

The control of importation concerns mainly condiments and spices as well as stimulants. Every division has at its disposal large rooms and appropriate apparatus. They fully match the actual requirements. The analytical results are compared both with the results of the producer's examination and the buyer's instructions.

Apart from the „traditional“ chemical section the division of modern analytical methods is worthy of note.

It would be of course difficult to name the entire large list of apparatus to be found here. The most important of them, however, should be mentioned. The latest model

of Pye's panchromatograph makes possible the determination of many trace substances. Its application for the purpose of fats and oils analysis is being considered.



Thin-layer chromatography is now a routine analytical method. Apart from the trace substances the natural and artificial dyes are determined — these are but to mention the most important actual tasks.

The spectrophotometer Unicam makes possible to determine vitamins and contaminants. The assessment of olive oil is performed by means of it. The  $\alpha$ -amino-nitrogen content in malt is also determined. The above mentioned analytical determinations obviously do not exhaust neither the whole set of analysis performed, nor — all the more so — the great possibilities provided by these apparatuses. This short information concerns only the present problems being worked on in the Laboratory.







sensoric tests. This domain of science is now being rapidly developed and is of quality assessment of food, particular importance for the CIS. At present attempts are being made to set up a scale of points for different kinds of food. This would be really very helpful for the purposes of quality control of food products.

Particular attention is being paid to the statistical methods of quality control. The problems of sampling are being studied, and especially their influence on the results of quality control. The comparison of inevitable, statistically justified errors of sampling and analytical methods is an important indication as to the choice of an appropriate analytical method. To complete this review the large store rooms, workshop, glass cleaning room as well as welfare and social facilities for the staff should be mentioned.

Some conclusions may be drawn from the above presented short description of the new CIS Laboratory and its work. It seems that the handing over for use of the Laboratory is a further step towards the basic purpose — the high quality of the Polish food products. To attain this purpose large outlays are made. One must realize that the own estimation of the results may not be free of subjectivism. To end this review it is therefore worth mentioning seemingly convincing facts indicating that as a result of our activities during many years we have won the confidence of our foreign partners in trade. A number of foreign firms importing Polish foodstuffs does not carry out its own control of goods with the CIS stamp. May we express the hope that in the future the circle of customers favouring us with their full confidence will ever widen.

*Andrzej Zaboklicki*



The microbiological division plays an important part in the Laboratory — the hygienic conditions of the imported and exported foods being the permanent concern of CIS. The large quarters fulfill the requirements of both science and practice. Next to the classical microscope such modern instruments now used in this field as, for instance, the Ultraturax mixer and many others are found. The analytical methods, culture media as well as all analytical details are currently modernized and rendered more efficient. They match the latest world achievements in this important field of quality control. The Laboratory has a separate division of



# Polish Science for the Meat Industry

The future of the Polish meat industry in a country which, as regards its economic development, made over the past 25 years a progress equal to that requiring a century, does not differ, in its principal characteristics, from meat processing all over the world.

The development of the Polish meat processing industry was characterized by:

- a concentration of production means and technical reconstruction which allowed to eliminate many shortcomings as compared with the meat industry of the most advanced countries;
- a progressing equalization of distribution of meat industry production capabilities toward preferential construction of new plants in regions abounding in livestock, so far not sufficiently equipped with these kind of facilities;
- a quantitative and — in the first place — qualitative improvement of the personnel through increasing the number of medium technical inspection staff and engineers professionally trained by high vocational schools and universities;
- the first attempt in the history of Polish meat processing industry at connecting and basing the principles of its technology on scientific foundations.

There is no doubt that the development of Polish meat industry was impressive. That development, however, has been based, above all, on an increase in employment and an increase in investments. It did not and could scarcely have changed the bare conception of technological pro-

cess. For, up to this time, the production of the Polish meat industry is, as — incidentally — all over the world, a multiplied and only as regards some processes — modernized and better organized handwork production. The applied processing resulted in the fact that the adjective "Polish" remains, notwithstanding the break caused by World War Two, a token of high quality of many a meat product.

The Polish knowledge of meat technology contributed to this development. As a young branch of food knowledge, during the past period it laid down — in the first place — the theoretical-cognitive foundations. Some of them, for instance the results of research on fermentation of raw pork products, are widely known all over the world. They have been made use of by specialist press, for instance in Japan. These and similar, theoretical-cognitive achievements justify the statement that the Polish school of meat technology — in the wide sense of this word — was created recently.

The most important achievement of Polish meat technology is the production of an original curing smoke substance. That substance is, undoubtedly, very useful in the manufacture of products made of meat protein denatured by heating. It allows to transform the so far used physico-chemical technological treatment into a physical treatment (seasoning). Thus understood, the curing smoke substance is an important factor for the future automation of production processes.







A further important achievement of the Polish meat technology is the production of artificial protein skins for the manufacture of cured pork products. The Polish conception of technology of these tissues is a unique and improved reconstruction of the production process applied so far in the world. However, this is not a long-term method of production of artificial sausage skins of the future. Animal protein is used for the production of this type of skins. At the time of an increasingly overstrained balance of protein intended for consumption this is not the best use it can be made of. In the future technology of cured meat products the use of intestines will be totally abandoned in the production of sausages, the substance for their modern substitutes will be synthetic raw materials. Polish science is approaching the solution of this problem, too. It must be mentioned here that Polish achievements in the field of methodology of an organoleptic quality appraisal of food, including meat products, are outstanding in the world. They have aroused interest abroad more than once. Apart from their theoretical-cognitive or practical-utilitarian character, the results of all these works have an impact on the development of the Polish meat industry. Along with the social-economic development of the country they constitute a trend in further evolution of meat processing. This trend must not only satisfy the requirements of tomorrow, but also take into account the development stages to come. In preparing a meal for tomorrow, one cannot fail to think what one will eat the day after.

The further development of the Polish meat industry will, of course, be based on the presently achieved development and, at the same time, take fully into account the future food supply. Therefore, this development must get rid of all which is still objectionable in the Polish industry and, at the same time, all which in the scientific-technical revolution deserves urgent attention from the economic, technical and humanitarian point of view. Both quantitative and qualitative effects of work of the meat industry depend in the nearest future, above all, on the population growth, increased individual demand for meat and meat products, on the exports and traditional preference of certain kinds of meat, higher grade of preparation for immediate consumption, and retail sales portioning requirements, as well as necessity of fast automation of production processes.

In 1975, the individual meat and meat products consumption will increase in Poland up to 62 kg. The protein it contains will constitute 42% of general protein consumption. The rate of further increase of meat and meat products consumption will probably not drop. Around 2000, it will amount to 85—90 kg annually. The quoted data means that over the coming 30 years the production of the Polish meat industry will increase two or three times.

From time immemorial the Polish consumer buys as many meat products as raw meat. Among meat products, cured pork products of all kinds are at the top of the list. They constitute traditionally the most popular form of consumed meat products. They are manufactured from first class meat, i.e. of a quality which in many other countries is used for other, more profitable processing lines. It is expected that cured pork

products will retain in the future their leading position among meat products, although the relative share of canned meat and — in the first place of ready-to-serve dishes — will increase.

The already taking place and expected changes in portioning and distribution of meat products will aim at increasing the grade of readiness of edible meat for consumption. Ready-to-serve meat dishes with addition of other products (mostly vegetables), graded according to quality and kind of meat, and quantitative increase of skinless meat products, preslicing and processing of sausages and meat preserves, as well as portioning and processing of meat and other processed meat products and semi-products — all this will be offered to the consumer in the nearest future.

Thus, in the immediate future the Polish meat industry will be faced with considerably increased social-economic assignments while an indispensable radical change of technological and technical principles of the so far applied production process will take place. The only chance for carrying out this task is a further development of mechanization, and — in the first place — a fast progress toward automation of processing. It will be therefore the responsibility of the Polish science of meat technology to participate actively in this reconstruction as regards leadership and initiative. This function will be carried out through an appropriate directioning of research problems, and particularly through:

- adapting mathematical methods of taking up optimal directive decisions to the specific work of the meat industry;
- modernization and specialization of all activities connected with the processing of slaughtered animals while fully maintaining the Polish characteristics and organoleptic desirability of all products;
- working out of one's own, original designs of technical facilities, fully adapted to the Polish method of work and suitable to be applied in automated production lines;
- working out of criteria and principles of an unprejudiced inspection of the production process and quality of the products obtained.

It is obvious that a full utilization of the achievements of the scientific-technical revolution of the future, including also the achievements of the Polish science of meat technology in the practice of meat industry depends on continued, fast and effective raising of the professional qualifications of the personnel of this industry. Replacing qualified workers with workers — graduates of high schools, and technicians — with graduates of posthigh schools (sub-engineers), is the basic principle of work of the meat industry showing a high standard of process technicalization.

Switching to the new, above outlined pattern, will adapt meat technology to a new point of view at a time of intensive and selective economic development. It will be, at the same time, the safest way to maintain the already traditional opinion on the good quality of Polish meat products, and to keep pace with the dynamics in the development of world meat industry. Thus understood the step towards modernity will ensure the Polish meat industry a high rank on a world scale.

*prof. dr Wincenty Pezacki*



# Several Words on Canned Hams

It has become an established fact that a foreigner's knowledge of Poland covers an impressively wide range of information. Even those, though, who have but a faint idea about Polish affairs will give our ham the top rank among other fine-quality products made in Poland. The popularity of Polish ham is undoubtedly related to the fact that it has been displayed on the store shelves of London, New York and many other cities for almost forty years now. Elsewhere, in Paris, Rome or Puerto Rico, Polish ham has gained a high reputation during the past years. The trademarks of Polish canned ham and shoulder, be it „Krakus”, „Tala” or „Atalanta” in the U.S.A., „Pek” in Great Britain or „Yano” in the Federal Republic of Germany, are well-known to tradesmen and consumers alike as a synonym of the finest value product. And thus, market poll carried out in the Federal Republic of Germany has pointed out that among all the imported canned meats „Yano” is the most popular one. Canned hams and shoulders are offered in a great variety of sizes and shapes. An individual consumer will usually buy the so-called „Family” size cans weighing from 1—5 lbs. Larger-sized hams and shoulders find their way onto consumers' tables indirectly, through the intermediary of slicing firms. Only sliced and repacked are they delivered to food stores. Considerable quantities of „heavy” hams, and particularly shoulders, are purchased by factory or student canteens and restaurants. In addition to traditional „Mandolin” cans holding 7 and 12 lbs, the export offer comprises hams in „Oblong” cans, i.e. of rectangular shape, and „Pullman” — square — shaped cans. Besides „Mandolin” hams, „Oblong” hams and shoulders weighing 10 lbs and 21 lbs, as well as „Pullman” shoulders (6 lbs, 12 ozs and 14 lbs) are in the greatest demand. Slicing operation firms show a steadily growing demand for the latest type of „Oblong” can (21 lbs). Both new sizes and shapes of canned ham and shoulder attest to the readiness of the Polish producer to adjust his offer to the changing requirements of purchasing markets.





Canned hams and shoulders from Poland feature a superb quality, excellent taste and flavour, greatly appreciated by even the most discriminating food connoisseurs — prospective consumers of the product, as well as high nutritive value and remarkable compactness which allows for successful slicing (slices do not disintegrate).

Among other worth mentioning properties are durability, uniformity and appetizing appearance, obtained without resorting to the nowadays available rich bank of chemical agents.

The unique quality comes as a result of the appropriate selection of pig breeds both as of natural feed used, which consists mostly of potatoes, barley and milk and is not supplemented with fish meal and maize.

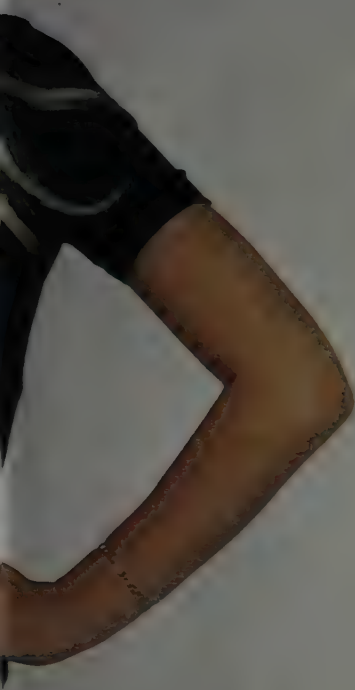
The technology employed in the processing of raw material thus obtained is based on the full utilization of natural characteristics of meat itself.

It is obvious that in order to maintain their production standards at the highest world level a producer must take advantage of the achievements of research centres and scientific institutes. But it may not be a matter of course to everyone that in Poland as many as two organizations entirely independent of the producer, namely veterinary services and the Quality Inspection Office, perform a detailed scrutinization of export production, and that is precisely the practice also with regard to canned hams and shoulders.

The sole exporter of Polish canned hams and shoulders, the „Animex” firm in Warszawa, would not deserve the reputation of a respectable trading enterprise, were it not eager to give adequate publicity to the fine quality of products it is dealing in. Accordingly, canned ham is widely advertised on all major markets by means of television, radio, illustrated magazines, branch publications and newspapers, depending on the actual needs. Other publicity media include posters displayed on bill posts, shopping bags, booklets with culinary recipes, slogans on transport vehicles, as well as sampling stands in department stores or supermarkets. Every year under the „ham” protectorate „Miss Polish America” is elected in New Jersey.







Obviously enough, there is no producer in the world who would fail to advertise real or, as it may happen, imaginary virtues of his articles. In the case of Polish canned ham there exists indisputable and objective evidence confirming its very good quality.

Let us quote here the findings of two serious and independent magazines; English „Which” and North-American „Consumer Reports”. In its issue of December 1969, „Which” published the results of its research on canned ham which covered 1 lbs hams of 24 trademarks, including also Polish-made „Pek”. It appeared that „Pek” ham won a place among top-ranking trademarks which were featured by a high meat content in a can (surpassing 95 per cent of the total weight), at a small share of fat and jelly. Commenting on those trademarks which were characterized by a high water content, „Which” concludes that one should not pay the price of ham for water. That means that a consumer paying the same or even a higher price for Polish ham than for a competitive product, gets a better value for his money, i.e. pays actually less, because he is offered more meat and hence a larger amount of nutritive substances.

„Consumer Reports” of October 1970 made public the results of an even more comprehensive test of canned hams. The evaluation test embraced 10 imported trademarks and 31 home-made products. Among the properties subject to checking were taste, flavour, consistency, and primarily the nutritive value expressed in terms of the protein content and the consumption weight of a meat block. Among the small-sized (3 lbs) pasteurized hams, Polish mark „Tala” received a very high grade. Likewise, our large-sized „Krakus” was found the best of all foreign and American products in its category.

Naturally enough, the top grades awarded to our products are a source of real satisfaction to Polish producers and exporters. The greatest pleasure, however, and the most effective stimulus encouraging them to continue their efforts and further raise the quality of canned meat, comes in the form of letters of appreciation from foreign consumers themselves.

Rudolf Guzy

## A New Item in the Offer of „Animex”

# Pressed Veal

Irena Świerzbńska

Whereas Polish ham enjoys a worldwide reputation on account of its incomparable taste, only a few are aware that apart from ham, Poland exports a great variety of pork, beef and veal products which are equally tasty and in some cases even surpass ham with regard to taste virtues and commercial value. And thus Poland is the world's leading exporter of delicious canned veal characterized by outstanding subtle taste and flavour as it is made from exceptionally delicate and lean meat. Calves used for the production of canned veal are slaughtered at the age of 6 weeks and prior to slaughter are fed exclusively on milk — the main reason of the delicacy of meat fibre and its light colour.

A traditional item which has been on the export list for a number of years now is jellied veal sold in conical cans holding 6 lbs. Consumers in Great Britain have been familiar with this product ever since 1934 and have always shown a great liking for it. Canned veal consists of large pieces of meat (average diameter around 6 cm), free of intermuscular fat and connective tissue. Prior to canning meat undergoes curing and parboiling and when placed in a can it is covered with a gelatin solution. In a ready product the latter appears as jelly binding together particular pieces of meat. Canned veal is suitable for slicing (slices 3—5 mm thick) and may be served cold.

Some consumers, though, especially in Europe, prefer to have it hot by warming it up and seasoning with a sauce according to taste. In Poland, for instance, most commonly used for this purpose are dill, horse radish or paprika sauce.

It was with that group of consumers in view that veal in dill sauce was added to our export offer 5 years ago. The product has met a full recognition of buyers in Sweden and the Federal Republic of Germany where it is known under the name of Dill Kott and Kalbfleisch mit dill sauce, respectively.

The canned veal is sterilized and manufactured in round cans holding 430 g net weight. The raw material used here is lightly cured calf's meat in pieces of 6 cm diameter, covered with light-cream coloured sauce. The specific taste of the sauce comes as a result of a number of ingredients, first of all dill which accounts both for the characteristic flavour and appearance. Because of its high nutritive values, canned veal is an important part of the menu in hospitals, school canteens and all the catering enterprises which are faithful to the principle of rational nutrition.

A very attractive novelty on the list of canned veal products is pressed veal, first introduced into our exports in 1969 and having no counterpart on any market that we are acquainted with. Pressed veal is available in rectangular cans of dimensions 90×102×300 mm and holding 6 lbs net weight. Within less than a year the article won a considerable popularity and a number of steady buyers in Great Britain and at present its reputation is being successfully established in Sweden and the German Federal Republic. The product is a compact and uniform block of meat covered with a thin layer of jelly which constitutes approximately 6 per cent of the entire weight and makes it easier take the meat out of the can.

Pressed veal allows for fine slicing, the section of individual slices resembling that of chopped ham. Each block of meat contains large pieces of lean meat bound by means of minced veal. Before canning meat is subjected to the so-called „sweet cure” which gives the ready product an appetizing pink colour. As no thermal treatment is applied before canning, the meat retains all the most delicate and easily digestible components, both protein and mineral, as well as non-nitric extractive ingredients. This is a typical dietetic product perfect for sandwiches and cold snacks. However, an experienced housewife may use it for preparing an exquisite hot dish in the same way as ham, for example, by grilling a thick slice and serving it with a fried egg and vegetables. Being especially suitable for slicing operation and highly economical, too, pressed veal is in great demand with retail shops dealing in sliced meats.



# Duck Export from Poland

The export of geese was and is the principal variety of poultry export from Poland. Poland has specialized in this export production and attains the highest quality standard, recognized by customers of various world markets. Poland paid particular attention to a quick and proper development of the production and export of ducks besides geese. Just as in the production of geese, Poland has already attained the highest world quality standard of ducks' production for export,

which has been confirmed by the opinions of our customers. There was a quick increase in the export of ducks since 1965 as seen below:

year 1965	—	ca 2500 tons
1966	—	ca 3000 "
1967	—	ca 3600 "
1968	—	ca 4000 "
1969	—	ca 4600 "
1970	—	ca 5200 "

As an example, the percentage of ducks in the total poultry export from Poland amounted to barely 14% in 1965 whereas it grew to 38% in 1970.

As issues from the above, Poland attaches much importance to the export of ducks, which is shown in the highest quality of the goods exported and the very careful service given to the customers. Poland had a halfwild breed of ducks (gray) in export production during 1950—1960, which — because they were bred



Virtues of  
Polish Butter

# BUTTER



Why is Polish butter so highly valued by buyers abroad?

It has a number of virtues.

Polish butter has a delicate, nut, refreshing taste and almond aroma. The structure and consistency of our butter is uniform and compact, and therefore it spreads easily on bread and does not break up into small lumps.

Lastly the outward appearance of packed butter exported from Poland gives a pleasant impression



under natural conditions — were marked for their excellent taste and little fat (meaty duck), but an even technological quality could not be attained in this commodity. After many years of crossings the "Pekin" race under strict control of the laboratory of poultry industry, a type of duck was obtained that was outstandingly meaty with a minimal fat cover — hence of very high dietetic qualities, of excellent taste and uniform quality. This type of duck is produced at present in Poland under fully natural conditions. Principally small farms breed the "Pekin" duck race in small flocks since they can be relatively easily fed during the spring-summer period, which tallies with the period ducks are slaughtered for export (April-September). The ducks are fed natural fodder in free fowl-runs and, additionally, with fodder from the root and cereal plants. Poland offers for export young ducks, i.e. after 8—10 week breeding, when the duck reaches a weight of over 2 kg and is designated for slaughter.

In order to assure a regular supply of the raw material, the ducks are bought by contract from individual breeders throughout the country by the egg-poultry (slaughtered) plants. Poland produces only young ducks for export, because the taste qualities of

the meat of young ducks, which is tender and easily digested, produce a great demand for this Polish commodity.

The ducks are slain and prepared for export in about 30 modern slaughter houses located throughout Poland.

Selection of the raw duck material when being accepted for slaughter is carried out very carefully and strictly in the presence of a veterinary physician. Among other parameters of quality appraisal of the raw material, the ducks are examined for their degree of fat and colour of the dead fowls. The results are carefully recorded, all remarks are transferred to the breeder. Ducks with too much fat and poor colour are eliminated from export and returned to the breeder. If a breeder supplies poor material for a second time he is crossed off the list of duck suppliers by the slaughter house.

A typical slaughter house in Poland has a modern production building, which has four basic accommodations (halls) for

- a) mechanized removal of feathers
- b) drawing
- c) chilling and packing
- d) freezing.

Equipment in production apparatuses is completely modern, the annual modernization assuring maximum hygienic conditions of production.

The technological process is automated and takes place on a line. Each dead fowl is examined without exception during drawing as regards health by the veterinary physician of the plant.

Before the ducks are sent for export, irrespective of the examination carried out for quality control within the plant-slaughter house, the quality of the commodity is officially examined by the medical-veterinary authori-

ties of the Ministry of Agriculture and by the Quality Inspection Office.

Besides this, the customer can commission a quality control at his own cost, to be carried out by „Polcargó”, an independent firm. Poland offers ducks of „Handelsklasse A” quality prepared as follows:

- a) eviscerated with giblets (RTC)
- b) „grill”
- c) eviscerated with legs and heads
- c) eviscerated with legs and heads.

Weight of dead duck eviscerated with giblets is from 1.4 kg to 2.3 kg, „grill” ducks from 1.2 kg to 2.1 kg., and ducks eviscerated, with legs and heads from 1.5 kg to 2.2 kg.

At the request of clients, the ducks can be delivered in car batches (ca 10 tons) according to individual weights of dead fowls, for instance 1.4 kg or 1.5 kg or 1.6 kg, etc. In case of such requests by the client, the goods should be contracted by the middle of April at the latest for delivery during the given calendar year. After that time, ducks are sold during the entire year in weights from 1.4 kg up for eviscerated fowls with giblets (RTC), from 1.2 kg up for „grill” fowls and from 1.5 kg for fowls with legs and heads.

Vacuum bags are used for the direct packing of the ducks, such as cryovac, hostaphan, etc.

Carton boxes of very strong cardboard are used for indirect packing. Ten ducks are packed in the boxes.

Poland exports ducks to many world markets such as GFR, France, Switzerland, Austria, Canary Islands, Great Britain, Singapore, Near East.

Sole exporter of Polish ducks is „Animex” Import and Export of Animal Products

Warszawa 12, ul. Puławska 14  
Poland



which is the merit of the aesthetic and modern wrapping with the POLBRAND printer's mark. We wish to recall, that butter exported from Poland is a natural fat obtained from the milk of cows fed on natural fodder — primarily green forages, the luxuriant growth of which is promoted both by the climate and soil of our country. Due to these conditions, Polish butter has unique dietetic properties and advantageously stands out from among the other edible fats.

When requested by clients, we are able to prepare both unsalted and salted butter from sour or sweet cream, both in blocks and in packets.

Exports of butter from Poland to Great Britain have a history of nearly 50 years.

Since 20 years ANIMEX, Foreign Trade Enterprise of Warszawa, Puławska 14, Poland, is the exporter of butter



# THE QUEEN OF VODKAS— WODKA WYBOROWA

In recent years Polish vodkas received 40 medals and distinctions at International Fairs and Expositions; among them 3 golden medals went to Wódka Wyborowa. In addition to that, in 1970 in Paris, Wódka Wyborowa was distinguished with a special award called the "emblem of good taste" by the International Institute of Promotion and Prestige (Institut International de Promotion et Prestige). The above award is granted to institutions particularly merited in the field of science and art.

Among 110 kinds of spirit products turned out by factories subordinate to the Union of Spirit Industry, a leading position is held by Wódka Wyborowa, often called the Queen of Vodkas by world vodka connoisseurs.





# **WYBOROWA**

## **— A PRIZE WINNER IN THE BEST COMPANY**

The Paris Pavilion Dauphine was the scene of the ceremony of awarding the Emblème International du Gout et de la Sarcure to the producer of Polish Wódka Wyborowa. The awarding body, the International Institute of Promotion and Prestige, is based in Geneva and associates eminent representatives of the world of art, literature, science and diplomacy from 24 countries.

The role of the Institute consists in promoting advancement in the field of art and production by awarding prizes to the authors of outstanding achievements. The prizes fall into three categories; La Médaille Internationale Humanitaire, Le Trophée International and l'Emblème International du Gout et de la Sarcure.

The composition of the award granting jury changes depending on the field of art or production under consideration.

The list of winners comprises large industrial firms such as the Porsche car works (the German Federal Republic), chemical articles of Solray (Belgium), Dutsch-Schell oil products (the Netherlands) and others, as well as NASA — American astronautics and French colour television.

It is in this choicest company that Polish Wódka Wyborowa was granted a place. Wódka Wyborowa is produced by the Poznań Spirit Industry Works.

Wódka Wyborowa along with other alcoholic drinks is exported by:

**"Agros" Foreign Trade Enterprise**  
**Warszawa, Żurawia 32/34**  
**Poland**

# **It tastes best**

— Always drink **WÓDKA WYBOROWA** (as other aromatic Polish vodkas) well iced.

— When mixing cocktails use plenty of crushed ice and shake well the mixture.

— When serving iced drinks, first chill the glasses in the refrigerator or fill them for while with ice.

— Never forget that all cocktails taste best when drunk immediately after mixing.

**Here's to YOU!**

# **Fruit and Vegetable Processing in 1970**

Although atmospheric conditions were not favourable in 1970 for agricultural production, no serious halt in the increase of vegetable and fruit crops was observed and a fairly abundant supply of vitamins was offered to the consumer. The Fruit and Vegetable Industry Union purchased a record quantity of over 900 thousand tons of vegetables and half a million tons of fruit. On the purchasing list dominated cucumbers—more than 120 thousand tons and tomatoes—over 140 thousand tons.





Deliveries of strawberries almost doubled as compared with 1969, and a visible growth was noted in the producers offer of gooseberry, currant and raspberry.

Nearly 40 thousand tons of strawberries were processed and 15 thousand tons — deep frozen.

Last year brought also high yields of plums and apples, as well as vegetables. Sizeable supplies of green raw material in 1970 was an important chance for the processing industry and made it possible to increase the output of vitamin-rich preserves.

Also our refrigerating industry had to face increased responsibilities and as a result issued as much as 32 thousand tons deep-frozen fruit and vegetables. The 1970 rich harvest of fruit and vegetables

export deliveries of deep-frozen articles. But, obviously enough, it is not quantity alone that matters. Therefore, due importance is attached by the Polish fruit and vegetable processing industry to the quality and varied assortment of products which must represent the finest standard. Accordingly, our export offer comprises a number of novelties, such as thickened beet soup, a vast choice of salads and vegetable-and-meat preserves, fruit cremogens and other traditional items.

The brief review of our fruit and vegetable processing in 1970 makes it clear that in 1971 Polish exports in this range will involve even larger quantities of fruit and vegetable products than in the preceding year enriching the consumer's menu with an additional amount of valuable vitamins.

**KRAKUS**  
*trade-mark  
of fruit and  
vegetable  
preserves  
from Poland*

*Exporter:*  
**AGROS—  
WARSZAWA—  
POLAND**







## Production of Deep-frozen Fruit and Vegetables in Poland

The abundance of berry-bearing fruits and their high quality are the basis of rapidly and successfully developing refrigeration of these raw materials in Poland.

The first place among them is held by strawberries, the production of which places our country among the leading five countries in the world. The next largest quantities deep-frozen are black currents, raspberries and blueberries, and also sour cherries, bilberries, red whortleberries and plums. The first deep frozen fruit appeared in Poland 1955 and its basis were cold stores having refrigeration reserves in meat freezer rooms.

The success won by Poland's industry in the line of exports of deep frozen fruit caused a rapid expansion of this production and a simultaneous constant development and modernization of the technical background. Cold stores were equipped with modernly arranged raw materials initial processing departments which ensure a quick and hygienic processing before deep-freezing. Meat freezing was replaced by automated quick freezing tunnels. At first these were imported tunnels, but recently Polish engineers constructed an own fluidization-belt tunnel, specially adapted for deep-freezing strawberries and suitable for freezing all other varieties of fruit and vegetables.

In addition to coldstores soon other establishments — primarily those which are engaged in the purchase and production of horticultural products, namely horticultural and agricultural „Samopomoc Chłopska” cooperatives — undertook production of deep-frozen fruit.

At the same time the state fruit-and-vegetable industry, which built at its factories up-to-date refrigerating departments, started the production of deep frozen fruit and vegetables.

Thus, within 10 years several dozen typical and specialized deep-freezing plants were set up throughout the country. These were localized in the heart of raw material producing bases in various regions of Poland.

Localization in bases of raw material production and modern technical equipment en-



sure a quick and efficient processing of fruit immediately after picking, which guarantees a high quality of the ready product.

All the plants producing deep-frozen fruit have at their disposal a staff of expert agrotechnicians who ensure a proper management of plantations, a proper selection of varieties, efficient picking and delivery of raw materials to the processing plant. Contracts concluded with planters guarantee a supply of high quality seedlings and seeds. An important point is the concentration of processing plants' agrotechnical service on the proper application by planters of weed killers and pesticides — this safeguards chilled fruit and vegetables against harmful to the health remains of pesticides.

All fruit deep-freezing plants in the country are primarily set at export production, as Polish chilled fruit and vegetables find many buyers abroad. The main consignees are: the German Federal Republic, Sweden, the United States, Canada, Great Britain, Switzerland, Denmark, Norway, the Netherlands Belgium France, Austria, the German Democratic Republic and Czechoslovakia. To realize the mass deliveries to customers abroad an especially large processing plant was built at Góra Kalwaria near Warszawa. This plant is set solely at the deep freezing of fruit and vegetables and the processing of fruit into condensed juices which also find many willing buyers abroad. This plant produces almost 8,000 tons of deep-frozen fruit and vegetables annually. The dynamics

of the rise in production of deepfrozen fruit and vegetables in Poland is best illustrated by the figures for the attained and planned production over the period of 25 years (1960—1985).

Year	1960	1965	1970	1975	1980	1985
Attained or planned in 1000 t.	10	15,3	57.2	80	100	120
of which export production	—	11.5	43	55	65	78

Thus we see from the figures given that the share of export production amounted constantly to more than 70 per cent. This is an indication of the high quality of Polish chilled fruit and vegetables.

Poland's place as a producer of deep frozen fruit and vegetables is indicated by the figures representing the amounts of chilled fruit and vegetables produced in 1966 by some European countries:

Great Britain 90,000 tons; Sweden 47,000 tons; the German Federal Republic 47,000 tons; the Netherlands 21,000 tons; Poland 16,500 tons; Hungary 14,000 tons; Denmark 11,000 tons; Bulgaria 10,000 tons; Italy 8,000 tons; France 7,500 tons; Belgium 4,300 tons; Finland 3,400 tons.

At that time the annual production in the United States was about 2,200 tons.

From this list it appears that our country holds quite a high place among the makers of chilled fruit and vegetables in Europe.

The basic difference which divides us from the countries of Western Europe is the share of deep-frozen vegetables in the total production of chilled fruit and vegetables. In those countries it amounts to not less than 95 per cent while in Poland it amounts to barely 20 per cent. That is so because of the priority which has been given to strawberries and other berry-bearing fruits and also due to the fact that during the first 10 years the development was based on reserves in cold stores which have no departments fitted out with equipment for the initial processing of vegetables.

The setting up of deep freezing departments at processing plants of the fruit-and-vegetable industry set for mass-processing of vegetables will permit to make up these arrears and to increase the share of deep frozen vegetables to about 50 per cent.

Were we to compare the volume of production of deep-frozen fruit in various countries of Europe, we would see that Poland has moved up to first place.

In Poland a staff of scientists in the Main Laboratory of the Deep-Freezing Industry in Łódź and in the Institute of the Fermentation Industry in Warszawa is working on the improvement of the deep-freezing technology of fruit and vegetables.

Today, in Poland preparations are well on the way for the starting of production of deep-frozen potato chips, for which we have excellent varieties of a higher quality than the renowned in Europe Bintje variety.

*Anna Konczewska*

agros



# The quality of beer is appreciated by its taste. You must therefore drink some Full-Light Żywiec Beer



## A visit to ŻYWIEC

Our visit began with Mr. Jan Czajowski, Manager of the brewery in Żywiec. When the purpose of our visit was known, the host served beer at a table. This proffered an excellent occasion to hear from the lips of a known expert in the brewing industry many interesting things about the production of beer, about drinking it and about the frothing of beer. When speaking about the advertisement of beer, we learn that the advertisement, presenting a portly gentleman with a big mug of frothing beer, is not true to life. For beer does not make one fat. Beer whets the appetite and helps digestion. The client expects beer to be imperishable. For that reason, most of the beer is pasteurized and its durability is guaranteed for 3 or 6 months.

Sir — we interrupt the interesting narrative — but where lies the secret of the fact that Żywiec beer is so good and is in such demand on foreign markets?

It really lies at the foot of Skrzynne. The water flowing out of the springs is of excellent quality

qualities for the brewing industry. One might say that the brewery is happily located. The soft water flowing out of the springs is harnessed by us, introduced into filters and flows further on under its own pressure into the brewery. The secret of the quality of Żywiec beer surely lies in this water and we are peerless in this respect.

We must gratefully acknowledge that the brewers, who lived at the beginning of the 19th century were right in their evaluation of the values of the water coming from these springs. Hence Żywiec has good water, a good location, an old tradition and excellent brewers. Obviously, the production of beer today takes place in completely different conditions. A modern technology is applied when using the immense capacity of the equipment, but the role of our brewers is by no means smaller. When you will see the brewery, you will notice how few people work at the apparatuses. Everything is mechanized. But a staff of technologists supervises the

quality of production. Each of these experts has a practice of many years in the vocation and an excellent theoretical preparation, acquired during studies along the brewing line. We have been very successful in uniting the Żywiec traditions with the modern brewing science. The union of these elements gives us a beer of high quality, which is known throughout the world. And for these reasons, Żywiec beer has received so many prizes and medals at international beer Olympic.

Poland is a country where much beer is drunk. The Żywiec brewery increases its production with each year. In 1971 we shall produce over 600 thousands hectolitres of beer, including 300 hectolitres of export beer. The portfolio of orders from foreign merchants already contains about 170 thousand hectolitres of beer.

It will go traditionally to the USA, England, Italy, the German Federal Republic, Yugoslavia, etc. There we generally export beer with a guarantee for 6 months. To countries that are nearer such as Hungary, Rumania and Bulgaria we send beer with a guarantee for 3 months.

We visit the brewery with this fund of knowledge. The procedure of processing barley into malt takes place in vast halls, the height of 2 storeys, in large vats. We observe further the process of obtaining beer wort and we see further how the fermentation of the wort takes place. As mentioned above, here we note only two to three workers — specialists.

We enter a vast basement where beer mellow, in other words goes through a secondary fermentation in large tanks of a joint capacity of 120 thousand hectolitres. Here the process of stabilization and freezing takes place during mellowing, on the length of which depends the durability of the beer. From the mellowing basements, we go over to a hall which the experts call the beer bottling plant. Thus there is a machine here for washing and cleaning bottles. Here the bottles, like a trained army, are set up on a belt in two rows and move on, at first in double rows and later in a single row to the bottling apparatus, where the bottles are filled and capped under high pressure. From here, they ride or move to the pasteurizer, where they are heated for a short time at a temperature of 60—70°C, in order to kill the micro-organisms, which might cause unfavourable physico-chemical changes and impair the taste of the beer.

And now only to the labelling and packing rooms. The entire process described lasts a very short time. Over 30 thousand bottles leave within an hour.

Bottles labelled

„Żywiec beer — Full — Light” contain beer that we can drink with full confidence.

Please address all enquiries to the exporter:

(Jot-ka)

Foreign Trade Enterprise  
AGROS — Żurawia Street 32/34  
Warsaw — Poland





# Polish Blue Poppy Seed

Equalized jute bag of 50 kg contents. A vertical red strip runs through the middle of the bag, with the inscription in black ink:

**Polish Blue Poppy Seed  
50 KGS WEIGHT GROSS**

**Product of Poland  
POLCOOP**

This is the packing of Polish poppy seed, which is known to foreign merchants and which is associated with good, or rather the best quality of product.



# RECIPES FOR POPPY-SEED CAKES

Any housewife who will decide to make a poppy-seed cake following the below-given recipes is sure to win the appreciation of family and guests. The only condition to be observed is that for a really fine-tasting cake, Polish blue poppy seed should be used. Poppy seed from Poland is characterized by an exceptional sweetness and aroma hardly found in poppy seed of another origin and a high fat content coming up to 50 per cent.

To make the job of baking a cake easier, we hereby offer several simple recipes for excellent cakes which may be served at dinner time or make a pleasurable addition to go with tea or black coffee.

## Ingredients to be used for poppy-seed mass :

1 kg poppy seed  
800 g sugar  
250 g melted butter or margarine  
4 egg whites  
200 g raisins  
5 g ground cinnamon  
30 g chopped almonds  
30 g orange peel  
1 stick of vanilla

## Ingredients to be used for making yeast dough :

500 g flour  
1 glass milk  
150 g sugar  
30 g yeast  
1 stick of vanilla or a few drops of vanilla essence  
60 g raisins  
60 g almonds or a few drops of almond essence  
20 g orange peel

## Making poppy-seed mass

Cover poppy seed with about 1 l of water, boil, drain and put through a special poppy-seed mincing machine (once) or through a meat mincer (four times). Add other ingredients and mix thoroughly.

## Making yeast dough

Dissolve yeast in warm milk (40°C), add 1/3 of the amount of flour and prepare leaven. Keep in a warm place until the leaven rises. Add beaten egg yolks with sugar and combine with other ingredients. Mix thoroughly, add the remaining flour and knead the dough. When the dough is ready, add melted fat and knead it once again. Leave the dough in a warm place until it rises.

## Forming poppy-seed cakes

Divide pastry into 250 g pieces and roll each piece into a 7—8 mm thick rectangle. Spread flavoured poppy-seed mass on the dough and roll. Grease a baking sheet, put the cake on it and leave in a warm place until the dough rises. Bake for about 25 minutes at temperature of 180°C. When baked, spread water and sugar solution all over the cake. Note: Aromas for dough or poppy-seed mass may be added as desired.

## Poppy-seed layer cake with coffee mass

### Ingredients for pastry :

8 eggs, 250 g sugar, 250 g poppy seed, a stick of vanilla sugar, lemon peel, 1 tablespoon honey, 60 g breadcrumbs, 2—5 pcs bitter almonds, 20 g butter, 20 g breadcrumbs for spreading inside the tart tin.

## Making pastry

Scald poppy seed, drain and put through a special thick-sieve mincer (once) or through a meat mincer (four times). Add vanilla, lemon peel, honey and bitter almonds, mix well. Beat eggs with sugar over steam until properly thickened. Add poppy seed and mix lightly. Grease the tart tin and sprinkle with breadcrumbs. Bake in a medium-hot oven.

## Ingredients required for coffee mass :

200 g powdered sugar, 30 g coffee (strong infusion — 1/2 glass 250 g butter, 3 eggs.

## Making coffee mass

Whip eggs with sugar and coffee infusion at a high temperature (over steam) until the mass thickens. Grind butter until white and combine with cooled mass. Add mass gradually so that it does not turn grainy and watery.

## Coating the cake with coffee-fudge glaze

Ingredients and manner of preparation: 300 g sugar, 30 g coffee (strong infusion — 1/4 glass), 1/8 l water. Boil the syrup made up of sugar, water and coffee infusion until thick, then mix with a wooden spade until it becomes thick. Cool the baked cake, cut into halves and cover with the mass. Coat the top with the glaze and decorate suitably. If you wish to have your cake without a glaze, cut it into halves, cover with a certain amount of the mass and spread the rest of it on the top of the cake; garnish the layer cake according to your individual taste.

## Nuts-and-honey sweets

**Ingredients :** 250 g honey, 125 g sugar, 1 glass poppy seed, 150 g walnuts.

## Manner of preparation:

Boil honey with sugar and sifted dry poppy seed (stirring all the time). As the mass browns a little, add chopped walnuts, mix together and place on a shallow dish moistened oiled on a marble moulding board and spread with a rolling pin or a knife to form a 1 cm thick layer. When the mass sets, cut into dice or form into rolls.


## Poppy-seed in shortcake

Ingredients required for poppy-seed mass as well as the manner of preparation are the same as for poppy-seed cakes.





# POLCOOP • POLCOOP • POLCOOP



**Ingredients for shortcake:** 600 g flour, 400 g butter, 200 g powdered sugar, 2 whole eggs, 200 g orange peel, 2 g cinnamon or a few drops of essence.

**Recipe for making shortcake:**

Combine butter with powdered sugar and eggs so that it does not turn grainy, mix with flour until crumbs are formed and put in a cool place. When pastry is sufficiently cooled, knead it, put on a moulding board and flatten to obtain a cake of 3—4 mm thickness. Place the cake on a baking sheet and bake the bottom half for 10 minutes at temperature of 180°C. Spread 2—3 cm layer of poppy-seed mass on the top of the cake. Coat with an egg (yolk and white mixed together) and bake at temperature of 180°C for about 30 minutes.

Take the cake out of the oven and sprinkle with powdered sugar.

Shortcake is excellent also for making poppy-seed croissants.

**Delicious poppy seed cakes**

**Ingredients:** 1000 g blue poppyseed, 1300 g sugar, 200 g orange peel 200 g natural bees honey, 10 egg whites.

**Manner of preparation:**

Take 3/4 of the total amount of sugar, mix it thoroughly with poppy seed and put through a special poppy-seed mincer (once) or through a meat mincer (four times), add the remaining amount of sugar and other ingredients. Combine well to obtain a uniform mass. Grease baking sheets and sprinkle with flour. Form the mass into balls of 30—40 g or 10 g and place them on a baking sheet 6 cm from one another. Bake cakes for about 25 minutes at temperature of 160°C.

# POLCOOP

## FOREIGN TRADE ENTERPRISE OF THE CENTRAL AGRICULTURAL UNION OF "SAMOPOMOC CHŁOPSKA" CO-OPERATIVES

Offers the following agricultural products and food-stuffs of vegetable and animal origin

### I. SEEDS

Blue poppy seeds, yellow mustard seeds

### II. POTATOES

Table and seed potatoes

### III. FOODER

Dried grass and lucerne meal

Potato flakes

Bone meal

### IV. PRODUCTS AND SEMI-FINISHED PRODUCTS OF FRUITS

Fruit pulps

Sieved fruits

Pasteurized fruits

Fruit juices

Deep frozen fruits

Fruits in syrup

Jams

Fruit syrups

### V. VEGETABLE PRODUCTS

Cucumbers

Baby beetroots

Asparagus

Cauliflowers

Sauerkraut

### VI. FOREST PRODUCTS

Mushrooms (fresh, in brine, marinated, dried)

Pine-cones

Chestnuts

Wild fruits

Acorus

### VII. MEAT AND MEAT PRODUCTS

Horse meat, frozen and fresh

Frozen rabbits

Frozen guinea-fowls

Goose and duck liver

Canned meat

Ready-to-serve dishes — pasteurized and frozen

### VIII. DIVERSE GOODS

Bedding peat

Canaries

Frogs

Snails.

Warszawa, Kopernika 30, Poland

Cables: Polcoop — Warszawa

Phone: 26-10-81, 26-23-63

Telex: Polcoop Wa 81-4451



# *A Potato Power*

Poland with her annual potato crops reaching 50 million tons is justly regarded as one of the world's leaders in this sphere of agricultural production. Suffice it to say that our yearly potato output equals the joint production of thirteen European countries and it is worthwhile to mention that this year's crops were by 20 per cent higher than those obtained in the preceding year.

The major proportion of potatoes grown by farmers remains on the farms being intended for livestock feeding and household consumption; around one and a half million tons are purchased by trade co-operatives and destined for the provision of urban population, whereas another million and a half is supplied to state potato industry enterprises for processing into potato flour, spirit and to be shipped for export. It should be emphasized that export potatoes are exclusively those of the finest quality, specially selected and of a uniform variety.

As Poland has exceptionally advantageous soil and climatic conditions promoting the growing of potatoes, at least a dozen of carefully tested and extremely valuable potato varieties are available. The breeding and production of potatoes is carried out by several million individual farmers as well as State Farms and scientific-research institutes. Poland's established position in the sphere of potato growing is well confirmed by substantial orders submitted by foreign customers. Our edible and seed potatoes have won many regular buyers, primarily the German Democratic Republic, Hungary, Italy, Morocco, Brazil, Austria and a number of others.

One of Poland's most successful potato producing regions is the Koszalin voivodeship, where serious breeding efforts were undertaken over 25 years ago. Favourable natural, soil and climatic conditions, prevalence of lighter soils of the IV and V class, and

and humidity encourage farmers to concentrate on potato growing. Propitious natural conditions of cultivation ensure appropriate spacing, while a considerable number of large farms allows for integration and creation of closed potato breeding regions. These assets were taken advantage of already by the first settlers who — in co-operation with specialists and managers of state farms — become engaged in the planned production of potatoes. On the basis of the rich experience amassed through those efforts the breeding of both regional and initial varieties, the so-called super-elites, was assigned to selected farms qualified for the accomplishment of research tasks. In this manner an area of 2,800 hectares was covered with the system of scientific research work concerning the regional distribution of particular potato varieties depending on their climatic and soil requirements. The concentration of research staff and material outlays brought visible effects and as a result the Szczekocin State Farm near Koszalin became a centre of scientific research on potato breeding.

Twenty years of intensive work effected profound changes in the distribution and topography of potato breeding in the Koszalin region. Other scientific research stations (with a major centre in Dunów) have taken over the preservation growing and in 1966 a Potato Institute was organized in Bonin, near Koszalin. The Institute incorporates the Head Scientific Research Centre in Bonin, two Scientific Research Branch Centres in Jadwisin and Młochów (the Warsaw voivodeship) as well as five potato experimental stations — in the Koszalin and Gdańsk voivodeships (two stations in each province) and one in the Opole voivodeship. Subsequently, in 1969 the Central Potato Varieties Breeding Service was called into being which carries out the reproduction of new varieties and strains for home experimental stations which are engaged in the evaluation of potato varieties, as

well as for co-operating foreign institutions. Later on the effects of their research are tested and popularized by the regional agricultural experimental centre in Grzmiąca. In addition, the Koszalin voivodeship has 20 breeding stations run by the Koszalin Enterprise of Plant and Seed Breeding which employ over 900 highly qualified specialists, graduates of higher agricultural schools. The above given information offers only a general picture of the potato „basin” and its scientific and technical background.

Following the toilsome research work, it has been possible to adopt for permanent cultivation in the Koszalin voivodeship about 30 varieties, including early ones, such as Pierwiosnek and Giewont, medium-early: Kaszubskie, Epoka and Bem, as well as later ones; Flisak, Lenino, Uran, Wulkan, Merkur, Wyszoborskie. The above varieties are floury, compact — suitable for salads, and yellow-fleshed, which are excellent for French fried potatoes. The tubers of these potatoes are round or oval, flattened, large and medium-sized, featured by shallow eyes and light-coloured skin.

The high-yielding varieties are drought resistant and not affected by protracted storage. The Wyszoborska variety is known to importers under the name Vis. Potatoes from Poland, fine-quality and economical in use, are highly appreciated by consumers in 35 countries. The yearly production of seed potatoes in the Koszalin voivodeship exceeds 2,200 thousand tons, thus accounting for 40 per cent of home grown super-elites. About 20 thousand tons of seed potatoes produced in the region are sent abroad.

Seed potatoes are subjected to tests and receive appropriate certificates at the Potato Evaluation Centre in Koszalin. The Centre is richly provided with well-equipped laboratories as well as greenhouses, where potato bushes blossom all the year long.







# Polish Food

Refrigeration in the food industry is of vital importance where proper preservation of the quality of raw materials and ready food products is concerned. That is why the introduction and application on a wide scale of refrigeration in the domain of handling food articles is rapidly taking place in almost all countries throughout the world.

During the post World War II period the Polish food refrigeration was developed dynamically thanks to considerable financial outlays destined for the building of cold stores and cold technological storage rooms at factories. This rapid development of food refrigeration is linked with the expansion of the food industry which is producing ever more food articles both for the home market and for export.

The development of cold storage during the years 1945—1970 is expressed by the increase in the number of cold stores from 6 in 1945 to 40 in 1970. This increase markedly improved the cold storage situation in all the provinces. In recent years not only a considerable improvement was obtained in the equipment of the country with cold stores but also a marked improvement was attained in their territorial distribution. Today in Poland there is not one province which has no cold store. Some provinces have even several of them. It is worth mentioning that a number of economic units has single branch and special cold stores, as for example, the fish industry or the egg-and-poultry industry.

During the years 1968—1970 the cold storage industry became enriched by seven large cold stores modernly fitted out and using the latest achievements in world



refrigeration technique. Lately in Poland one-storey cold stores are being built, this however, does not mean that the question of exploitation of one-storey and multi-storey cold stores is not comparatively studied with the aim of achieving the proper conclusions from the technological and economic points of view. Despite considerable practice attained in designing and building of cold stores by Polish specialists, the designs of one-storey cold stores are not considered as the best attainable solution, to the contrary, in the elaboration of the plans the designers endeavour to put to the best use all the possibilities offered by one-storey cold stores such as, for example, speed in erection, facilitation in exploitation due to the elimination of hoisting, limitation of horizontal

transportation as a result of the best system of passages, application of the lightest roof and wall constructions and the better putting to use of each square metre through the stacking to the height of 5.5 m.

Poland's machine industry today fully satisfies the needs of the cold storage branch in the line of deliveries of high output compressors, of which equipment it is also an exporter.

Due to the increased quantities of goods to be frozen or cold stored and the application of a new technique in building, the refrigerating, engineering branch is developing in many directions and is today engaged, by necessity, not only in the preservation and storage of perishable food articles, but also plays an important part as a technological factor in the production of foodstuffs.

The Polish food refrigeration branch in addition to storing and freezing food products undertook more than a dozen years ago the production of frozen fruit and vegetables, chilled ready-to-cook articles, ready dishes and ice-creams on an industrial scale. Frozen foodstuffs made by the cold storage branch are developing dynamically and as a result it is possible not only to supply the home market but also increase exports of these products.

Polish frozen products are renowned on foreign markets. The high standard of cold storage of



# Refrigeration



foodstuffs creates the necessary conditions for exports of agricultural products and foodstuffs which are mainly shipped by sea from Polish ports.

During periods of intense exports harbour cold stores must fully ensure the proper and on schedule shipments of food articles. That is why in exports of food, cold stores located in ports play an important part. It is worth stressing that for the proper handling of export shipments of food articles it is necessary to have the proper cold-storage area and refrigerating capacity in ports because of the necessity to combine export shipments with the timetables of ships and the punctual and quick servicing of foreign customers. Thus the cold stores built on the coast fulfil this requirement.

Despite the already existing considerable refrigeration potential and the high standard of the cold storage branch in Poland it is planned to build in the years 1971—1975 further up-to-date cold stores and to boost the expansion of cold storage facilities at factories of the meat, poultry, dairy and beer industries. This will, undoubtedly, have no small influence upon the further improvement of the quality

of food articles earmarked for the market and for export.

In recent years the refrigeration industry has widened the cooperation with countries abroad

through participation in international congresses and conferences, apprenticeships abroad, consultations with prominent experts in refrigeration of other countries. In the design and research work the publications of the International Institute of Refrigeration in Paris, of which Poland is since many years an active member, are put to good account.

Poland's cold storage branch has become today an important branch of the food industry. It has a considerable refrigeration and storage capacity, its equipment is up-to-date and it carries out an important function in the preservation and production of food and permits a proper and rational economic policy as far as food articles are concerned.

We owe its high standard to intensive building on the basis of the latest world achievements in the refrigeration technique.

Lastly it is worth stressing that with the development of food refrigeration there also occurs a development of the production of refrigerated means of transportation, i.e. refrigerated railway cars for dry and water ice and refrigerated vans.

When speaking about the development of food refrigeration and cold storage one cannot omit the

important domain of scientific research in which the scientific and research institutions — the Centralny Ośrodek Chłodnictwa (Main Refrigeration Centre) and Centralne Laboratorium Chłodnictwa (Main Refrigeration Laboratory) — are engaged.

The former is engaged in, among other things, the realization of technical progress in the line of designing machinery, fittings and automation and the designing of refrigerating systems, the latter carries on work in the line of preservation and storage and processing of food articles and the application of refrigeration equipment in internal transportation and refrigeration economics.



The high standard of food refrigeration in Poland is accompanied by great progress in the education of highly skilled personnel for the cold storage branch. This takes place on the university level at four engineering colleges and on the secondary level at a special refrigeration technical school.

*Mieczysław Stępiński*



In a present-day home frozen orchard and forest fruits as well as vegetables and also cooked products are one of the basic meals and most valuable for the health garnishing of various dishes.

In Polish food exports of frozen products have an ever growing share. With the increase in the demand for these products the network of refrigeration plants is expanding and developing. Poland is among the world's countries having a well developed network of refrigeration plants and cold stores for the production and storage of frozen products. In addition to cold stores owned by large co-operative organizations we have in Poland a network of cold stores associated within the Union of Cold Stores.

In wishing to acquaint our Readers with this field of Poland's economy the Editors asked Mr. Mieczysław Soczówka, M. Sc., the Managing Director of United Cold Stores, for an interview.

*Question — Mr. Director will you please tell us what does the Union of Cold Stores, which you direct, represent?*

The United Cold Stores associate several dozen one-storeyed and multi-storeyed cold stores, fitted out with up-to-date equipment for quick freezing and low-temperature store rooms.

Cold stores, as the main makers of frozen food articles in Poland, specialize in the production of quick-frozen fruit, vegetables and cooked products.

The products of our cold stores are renowned for their quality. They are made without any preserving additions from raw materials grown or bred under a strict agrotechnical supervision.

Due to the use of a proper production technology they retain the full taste and nutritive values of fresh products.

*Question — What is the production programme of cold stores?*

The programme of our production embraces the following assortments:

**Orchard fruit** such as: strawberries, wild strawberries, raspberries, sour cherries, cherries, black and red currants, plums and gooseberries with or without sugar.



**Forest fruit** such as: blackberries, cranberries, forest raspberries, forest wild strawberries, elderberries, briar-rose.

**Vegetables:** uniform size green peas, cut Freuch beans, mashed spinach or en branche, uniform size Brussels sprouts, sliced cucumber salad, sliced leeks, seleries cut into cubes, broad beans, carrots cut into cubes, cauliflowers cut into rosettes, sliced red and white cabbage, spring onions and other vegetables.

Independently, of the said frozen vegetable products we offer deliveries of cooked meat products in the form of ready or semi-finished products or ready-to-serve dishes. Cooked products may be provided in unit packings in aluminium forms (alubaks) or little cardboard boxes according to the offer or buyer's request. Packages used by us are: tin cans, ondulated multilayer cardboard cartons polyethylene bags,

multilayer paper bags with a polyethylene liner, unit packages — firm's small polyethylene bags with inscriptions in the language required by the customer and expresso small cardboard boxes.

We deliver goods both of the highest standard, specially selected and of industrial standards.

Our products are exported to twenty-five countries of five continents. Our products are exported according to branches by the following foreign trade enterprises.

— frozen products of vegetable origin — AGROS and HORTEX  
— frozen cooked products — ANIMEX and POLCOOP.

*Question — Does United Cold Stores cooperate within the range of its interests with any international organization?*

United Cold Stores take an active part in the work of the International Institute of Cold Storage and especially in that of its Commission III, IV and V.

Our representatives are active in the Work Commission of the Group of Experts of the European Economic Commission of FAO/WHO for the standardization of fruit and vegetables. We also participate in the passing of judgement on drafts of I.S.O. Standards forwarded to us by the Polish Standardizing Committee.

Moreover, we take part in various commercial events of an international character. Our frozen products are exhibited at the Poznań International Fair.

J.K.





Strawberries,

Strawberries,

Strawberries



Fresh and frozen

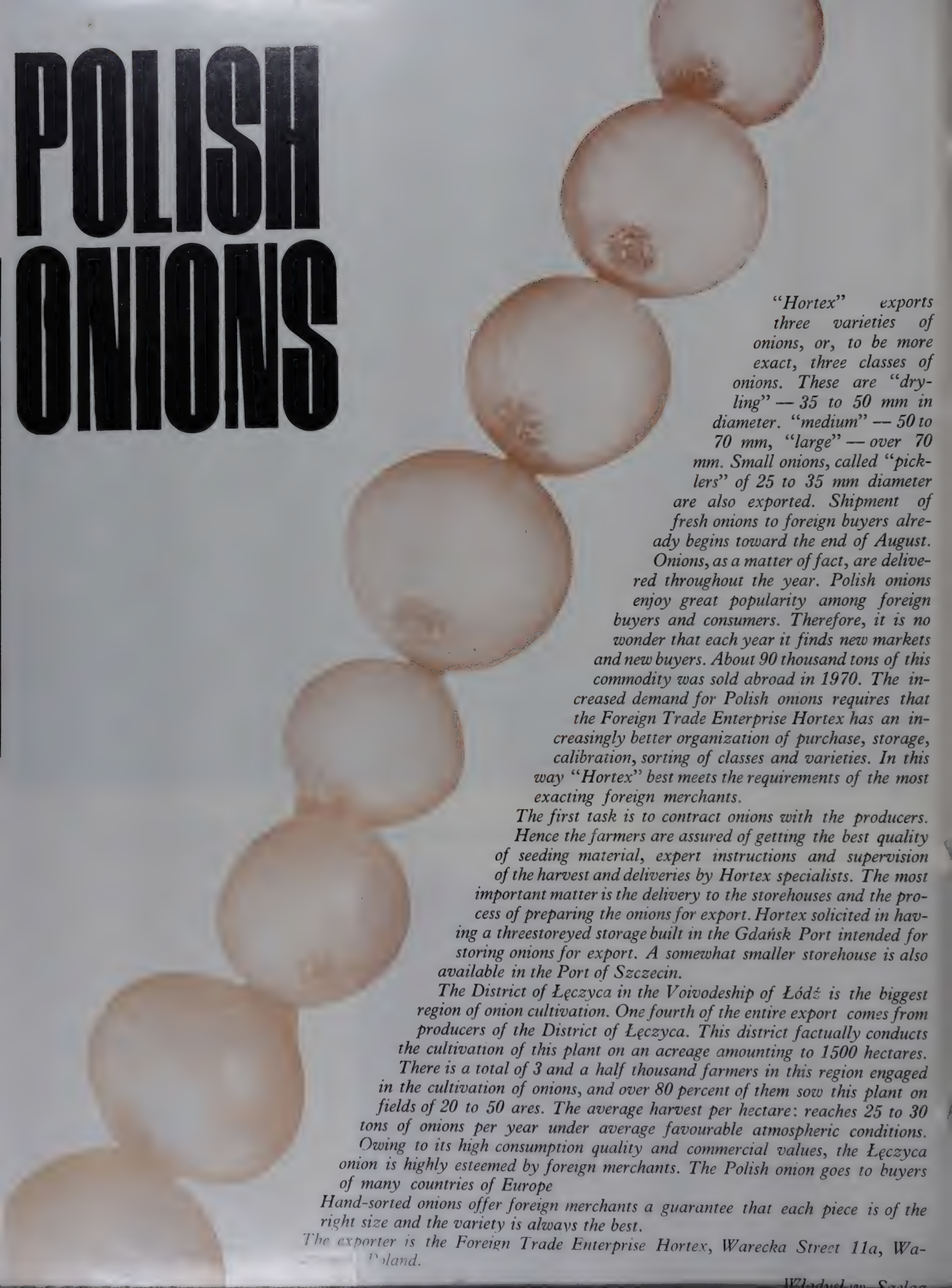
well-known for their  
exquisite quality

Exported  
by  
Foreign Trade Enterprise  
HORTEX





# POLISH ONIONS



*"Hortex" exports three varieties of onions, or, to be more exact, three classes of onions. These are "dryling" — 35 to 50 mm in diameter. "medium" — 50 to 70 mm, "large" — over 70 mm. Small onions, called "picklers" of 25 to 35 mm diameter are also exported. Shipment of fresh onions to foreign buyers already begins toward the end of August.*

*Onions, as a matter of fact, are delivered throughout the year. Polish onions enjoy great popularity among foreign buyers and consumers. Therefore, it is no wonder that each year it finds new markets and new buyers. About 90 thousand tons of this commodity was sold abroad in 1970. The increased demand for Polish onions requires that the Foreign Trade Enterprise Hortex has an increasingly better organization of purchase, storage, calibration, sorting of classes and varieties. In this way "Hortex" best meets the requirements of the most exacting foreign merchants.*

*The first task is to contract onions with the producers. Hence the farmers are assured of getting the best quality of seeding material, expert instructions and supervision of the harvest and deliveries by Hortex specialists. The most important matter is the delivery to the storehouses and the process of preparing the onions for export. Hortex solicited in having a threestoreyed storage built in the Gdańsk Port intended for storing onions for export. A somewhat smaller storehouse is also available in the Port of Szczecin.*

*The District of Łęczyca in the Voivodeship of Łódź is the biggest region of onion cultivation. One fourth of the entire export comes from producers of the District of Łęczyca. This district factually conducts the cultivation of this plant on an acreage amounting to 1500 hectares.*

*There is a total of 3 and a half thousand farmers in this region engaged in the cultivation of onions, and over 80 percent of them sow this plant on fields of 20 to 50 ares. The average harvest per hectare: reaches 25 to 30 tons of onions per year under average favourable atmospheric conditions.*

*Owing to its high consumption quality and commercial values, the Łęczyca onion is highly esteemed by foreign merchants. The Polish onion goes to buyers of many countries of Europe*

*Hand-sorted onions offer foreign merchants a guarantee that each piece is of the right size and the variety is always the best.*

*The exporter is the Foreign Trade Enterprise Hortex, Warecka Street 11a, Warsaw, Poland.*





## *My Dear!*

I am writing to you today just in order to persuade you to serve as often as you can the wonderful dishes of bilberries, the fruit so easily available in summer. Before I do so, I must refer to a certain experience of mine. The other day we had an unexpected visitor — a doctor who is a friend of ours. I was a little put out, as the lunch I cooked was a simple one and consisted, among other things, of a bilberry dish. And then it turned out that our friend not only likes the fruit very much, but considers it to be an immensely valuable source of many substances important for the human organism. He mentioned, for example, invert sugar and saccharose as well as a rich variety of vitamins. Bilberry (in Latin — *Vaccinium myrtillus*) contains not only vitamin C which appears commonly in other fruit, but also vitamin B complex, which is nowadays greatly appreciated, vitamin D and provitamin A.

The doctor told us that bilberry contains diverse substances, such as magnesium, iron, phosphorus, potassium, sodium, calcium and magnesia, and that all the ingredients, while possessing an outstanding nutritive value, are easily assimilated by our organism.

And most interesting of all is that both fresh and preserved bilberries, as well as their leaves, have been for centuries regarded as an effective drug. Do you know for instance, that fresh bilberry, due

to its specific properties neutralizes harmful decay processes in human alimentary canal, prevents an excessive development of bacteria and has a soothing influence in case in inflammatory states. Moreover, bilberry juice happens to be a first-rate disinfectant in various mouth infections, to say nothing of its efficacy for catarrh.

Now that you have learned so much about the good qualities of bilberry, you will say perhaps that it is not so easy to get bilberries in shops. And yet in summer season almost all well-supplied groceries sell baskets of bilberries imported from Poland. Their exporter, the Polish Foreign Trade Enterprise HORTEX, delivers freshly picked bilberries in 1 kg and 3 kg baskets.

Let me tell you now that we are speaking about it that large quantities of bilberries are used by the food industry for jams and juices, and that the winemaking industry colours high-quality red wines with them.

You may be assured that Polish bilberries, harvested with extreme care, well-packed and delivered as soon after picking as possible, are fresh and full of aroma. So do not hesitate to take my advice and buy fresh bilberries from Poland in summer and out of season, in winter, do your best to get the priceless fruit deep frozen or dried.

Your Irene





## he Tradition of Agriculture is Old

Agriculture in Poland has an old tradition. Our country was already called the granary of Europe in the 16<sup>th</sup> and 17<sup>th</sup> centuries. Grain and timber constituted at that time the principal export articles. A long time has elapsed since that time. Our agriculture experienced its ups and downs. There was a setback in technical advance and outlays for farm management were held up in the 18<sup>th</sup> century. But farm production still constituted the most important domain of productivity between wars. We are at present modernizing farm production and increasing its effectiveness and output. We can carry out these transformations because we have an appreciably stronger industrial base, which we are incessantly making stronger and are expanding.

We say — our agriculture — but we have presented it in greatly abbreviated form owing to the limited space allotted for the article.

We have a total of 31 million hectares (1 hectare = 2,471 acres) of surface area. Almost 52% of these are arable lands and orchards. In this respect we take 3<sup>rd</sup> place in Europe. Only Denmark (63%) and Hungary (61%) are ahead of us. Meadows and pasture lands occupy 13.4% of the surface area, and forests — 25.5%. We are a country that has no surplus land suitable for cultivation at our disposal. We, therefore, cannot base the growth of agricultural production for running farms on lands heretofore unutilized. Our country must increase its production by intensifying it.

And that is the way our farmers run their farms. We have in Poland over 3.5 million farmers, running individual farms on an area of over 17 million hectares, over 6 thousand State Farms on a surface area of 2.6 millions hectares, production cooperatives run farms on 208 thousand hectares. Almost 150

thousand hectares of farms are run by Agricultural Circles of the given village or of several villages.

Worth calling attention is the fact that Poland has no big private farms. The largest farms cannot exceed a surface area of 50 or 100 hectares — as depending where they are located. Agricultural reform was carried out twenty-five years ago, the large land estates were parcelled among the peasants. The present State Farms are centres of agricultural culture, supplying farmers running individual farms with seeds, breeding cattle, etc.

Our goods in many fields of farm produce already enjoy a high reputation for their good quality and are considered to be unrivaled on many world markets.

It is no secret that the excellent quality of Polish meat conserves is the result of the first rate raw material used for production. When fattening pigs, poultry or other farm animals, the farmers use natural fodder, hence the most expensive, giving in effect an excellent, savoury product. The taste of Polish ham, its excellent appearance and consistency make it a merchandise that is in demand on all the world markets.

The same is true of meat conserves. The savoury popular conserves compete with success with the luxury products of other countries. The Foreign Trade Enterprise ANIMEX (dealing with the export of products of animal derivation) already enjoys a well established reputation on world markets which it owes exclusively to the unsurpassed quality products exported. Just one of the numerous plants producing for export, namely the industrial meat plant of Bielsko Biala, exports 19 different varieties of hams and conserves to 15 countries, including USA, GFR, etc.

Another product, always of an unsurpassed standard are our seed potatoes. It is true that the climatic conditions in the northern part of the country are favourable to the soundness of the potatoes and inherent resistance to viruses. But that is not all. The potato breeding stations are incessantly working on raising the feature of individual potato varieties. And not until then do these two elements — natural vegetational conditions and the work of scientists, give us an effect — a seed potato which planted in any geographical latitude, of course there where potatoes are grown, give good yields in the form of sound virusless tubers. Foreign customers emphasize that next to the excellent quality, the seed potatoes exported from Poland are excellently prepared: their size (calibre), colour, cleanliness and good packing.

The Foreign Trade Enterprise "Polcoop" deals with the export of potatoes.

When describing the farm products we export, we cannot overlook the fresh and dried mushrooms, and also game. Not many countries can offer such delicious and valued as regards caloric value, forest products which are mentioned above.

The Foreign Trade Enterprises "Agros", "Polcoop" and "Hortex" deal with the export of mushrooms, and "Animex" is the sole exporter of game.

It is not possible to present in one article all the farm products offered by the Polish Foreign Trade Enterprises. For there is a wide selection, which is second to none in quality when compared with analogous products exported by renowned producers of world fame.



# A Symposium



## on Champignons

A symposium on champignons, which is no doubt a rare event, was organized on the initiative of the Union of Horticultural Co-operatives. Over 200 scientists and champignon breeders from all voivodships who took part in the symposium stated unanimously, both in papers delivered as well as during the discussion, that domestic and foreign markets alike show an unlimited demand for highquality champignons.

In his paper Professor Doctor Boleslaw Smyk from the Higher Agricultural School in Cracow drew attention to the dynamics of biochemical processes taking place in the production of nutritive soil for champignons. Other participants pointed to the fact that although the growing of champignons in Poland had a tradition of long

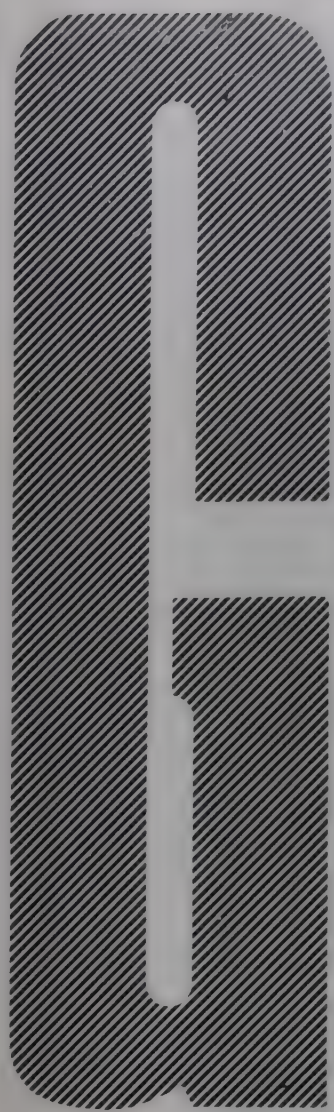
standing, it was only in 1960 that a large-scale production was embarked upon. At that time the Horticultural Trade Enterprise adopted the system of contracting and purchasing of champignons for domestic and export needs buying in the first year of its activity one ton of the valuable mushrooms.

To illustrate the rapid expansion of the champignons production in the course of the past decade, it is enough to add that in the current year 2 thousand tons of champignons were purchased. The quantitative increase in deliveries has been paralleled by a marked improvement of quality. At present champignons growers supply first-grade mushrooms which are sought after on many world markets. Over

30 per cent of the total output is directed to European countries, Polish champignons being served as a highly-appreciated titbit on tables of Paris, London and Moscow.

During the symposium both champignons producers and scientific-research workers agreed that best-quality champignons are grown on the humus-enriched subsoil of horse manure. For the time being the largest deliveries of champignons come from the region of Warsaw and Warsaw voivodeship, followed by the Łódź, Poznań and Katowice voivodeships. Participants in the discussion concluded, however, that there existed potentialities of a further intensification of champignons growing in Poland.



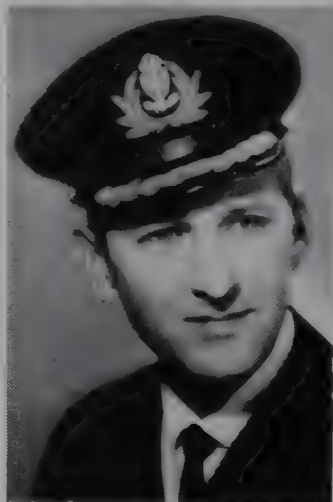
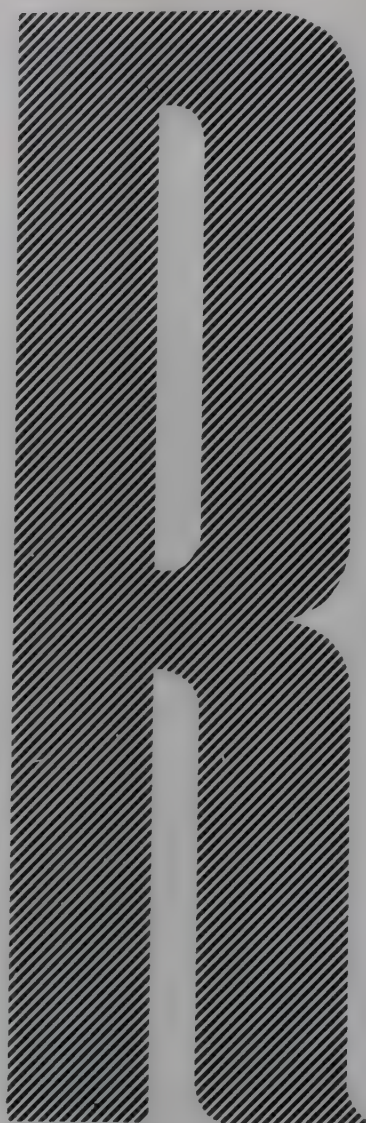


## a Shipowner and Sea Fish Supplier

Sea fish in a varied assortment has now become a more significant item in our daily menu than ever before. It is not only because fish makes a tasty meal, but also because we have become aware of its dietetic value for our organism as a source of vitamins and, first of all, protein. Parallel to the increasing fish consumption Polish, export of fish is steadily rising. Foreign customers show a particular liking for the recently developing form of export — directly from the fishing vessel. Modern factory ships, which are designed to catch fish and immediately process it in a variety of ways, reflect the spectacular advancement in the field of shipbuilding industry as well as the promising future of fish-origin foodstuffs.

In Poland the sole exporter of fish and fish preserves is the "Rybex" Export Office which has already gained a worldwide reputation for the quality of its services.

Accompanied by Director Zbigniew Bukowski, we are paying a visit aboard the B-29 fishing ship which has just called in after a voyage to Georges Bank. And a successful cruise it has been, says Mr. Ryszard Bogochwalski, Captain of the Ocean-going Fishing Fleet, and a great abundance of fish, mackerel, cod and herring it has brought. Out



of the total of 2,080 tons. 700 tons have been delivered to foreign buyers straight from the ship.

In reply to our inquiries concerning the forms of cooperation between "Rybex" and "Gryf", we are told that "Rybex" relies for export on seven shipowners. One of them is the Deep-Sea Fishing and Fishing Services Enterprise "Gryf" — a shipowner and fish supplier. From the ship — B-29 — we are presently visiting and which is owned by "Gryf", we can witness unloading work being carried out. Cartons full of fish are moved out of the deep-freezing section by means of a belt. Before long, the fish will be delivered to fish stores. It is not an easy task to give an accurate account of what is going on aboard the factory ship, and after all, we have no intention to do so, expecting our Readers would rather be acquainted with the scope of activities undertaken by "Gryf". At our request, Mr. Wiesław Gąsior, Director of the Fishing Division, gave us a brief outline of operations executed by "Gryf". To begin with, where do we fish and what do our catches consist of?

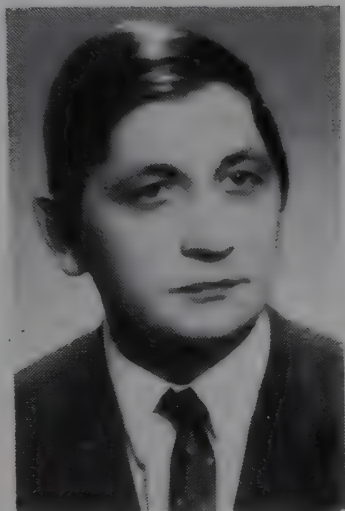
The most general answer to the first part of the question is: in all the fishing grounds of the world, mostly in the Baltic, North Sea and adjoining waters,





North-West Atlantic, North-West African waters, North-Eastern part of the Atlantic, as well as in the so-called Angola waters as far as the 28th parallel. A great importance is attached to the fishing grounds in North-West Atlantic, which are famous for their rich supply of fish, whereas it takes only two weeks to get there. But, adds Captain Ryszard Bogochwalski, fishing in those waters is by no means a simple operation, and requires a special up-to-date fleet of the kind that the Polish shipowner has at its disposal.

In continuation we learn from Director Gąsior that our fishing fleet relies on modern vessels type B-29. These are fine ships featuring all the latest advances in the range of machinery, i.e., fishing and processing equipment. In addition to 11 factory ships of the above described type, "Gryf" is in the possession of 4 vessels type B-23 and conventional ships type B-14. To make the list complete, we must mention 24 trawler drifters, 2 shipsbases of the B-67 type, one ship functioning as salted fish base, a liaison ship and two refrigerated barges holding 300 tons each. Summing up, "Gryf" fleet is worth about 50 million U.S. dollars. Aside from other activities, "Gryf" provides freight for sizeable quantities of foreign commodities.



"Gryf" is a large fishing combine, continues Mr. Gąsior, engaged in the fishing and processing of mackerels, cods and herrings, and rendering repair services of various kinds. The annual catches oscillate within the range of 68—72 thousand tons of fish. According to "Rybex" orders, one fifth of our catches, processed aboard the ship into fillets and other deep-frozen products, is delivered to customers abroad.

Foreign currency obtained for export supplies is utilized for the defrayal of exploitation costs in foreign ports, purchase of radio-navigation and other ship equipment which is not manufactured in this country, as well as for the import of diverse fish products necessary to ensure the domestic market balance.

The Deep-Sea Fishing and Fishing Services Enterprise "Gryf" we have visited is one of 11 enterprises supplying fish to the "Rybex" Export Office. The Foreign Trade Enterprise "Rybex" cooperates with seven shipowners who handle fishing in all the catching grounds of the world and deliver processed fish to customers in Europe, Asia, Africa, the U.S.A. and Canada. The joint production potentialities of fishing enterprises involved guarantee both the timely delivery of merchandise ordered as well as its full compliance with every specific wish of a client.

*Józef Korzeniowski*





# POLAND

Sugar as a food product is one of the basic articles indispensable for the proper nourishment and development of the human organism. Thus the level of sugar consumption in any country defines to a certain degree the standard of living of its population.

World sugar production consists of 58 per cent of cane sugar and 42 per cent of beet sugar. Europe is the main producer of beet sugar. Poland is in the group of the world's largest producers of sugar.

Production of beet sugar in Poland has traditions of more than 150 years standing. The first sugar factories were built on Polish territories as early as during the half of the XIX-th century.

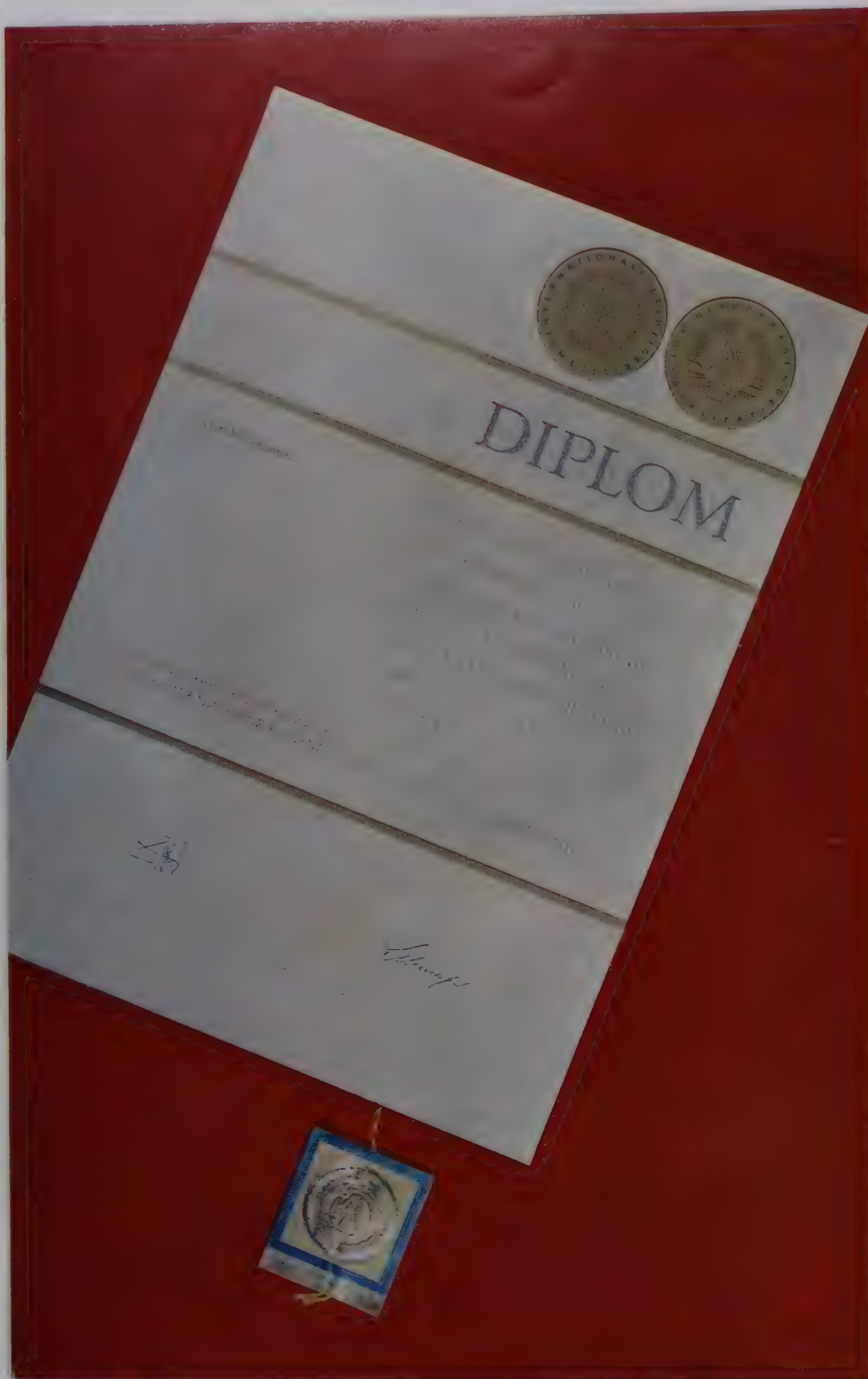
After World War II the acreage of sugar beet cultivation and sugar production in Poland rose particularly fast.

This increase is illustrated in the table below.

	Acreage in thous. ha	Production in thous tons computed on raw sugar basis
1946	169.6	426.1
1950	286.9	809.7
1955	391.6	1086.0
1960	400.8	1517.0
1965	476.0	1539.0
1968	414.0	1850.0
1969	409.5	1723.0

The production increase is paralleled by growing exports of Polish sugar. This increase can be seen from the below given table.

	Export in thous. tons by weight
1946	16.6
1950	234.0
1960	316.1
1962	733.5
1968	649.4
1970	306.0



## Gold Medalist The Cod Pâté



Please address inquiries  
to the "RYBEX" Foreign  
Trade Office — Poland  
Szczecin, ul. Odrowąża 1

Fish and fish products exported by the „Rybex” Foreign Trade Office are widely known for their high quality. The producer and supplier of fish products for export — Gdynia Fishery Works — received for their top quality production, a gold Medal at the 1970 International Leipzig Fair. We recommend the gold medalist — cod pâté



# THE EXPORTER OF BEET SUGAR

In connection with Poland's access to the International Sugar Agreement and the acceptance of the system of export quotas as well as because of a poor beet crop in the 1969/70 campaign, exports of Polish sugar dropped to the level of 300,000 tons. However the basic quota of 370,000 tons in terms of raw sugar allotted to Poland within I.S.A. gives Poland sixth place in the group of exporters. Thus in the world trade Poland belongs to the group of leading exporters next to such

sugar producers as Cuba, Australia, Brazil, Taiwan and South Africa.

Polish sugar is known and highly valued in all markets of the world. Its main buyers are in Europe — Finland, Norway, Sweden and Great Britain, in Africa — Morocco, Tunisia, Sudan, Kenya and the West and East Africa countries, in Asia — Lebanon, Iraq, Iran, Kuwait, Aden, Nepal, Ceylon, Hong-Kong and Indonesia, in South America — Chile.

The sole exporter of sugar

from Poland is ROLIMPEX, Foreign Trade Enterprise, in Warszawa — Al. Jerozolimskie 44.

ROLIMPEX offers:

White middle grain crystal sugar of minimum 99.8% polarization

White "Fine Granulated" crystal sugar of minimum 99.8% polarization

Cast cube sugar of minimum 99.9% polarization

Pressed cube sugar of minimum 99.9% polarization

Humidity content in all the above grades of sugar at the moment of loading,

amounts to maximum 0.05% Raw beet sugar, minimum polarization 96%.

According to buyer's wishes Polish sugar is packed in single or double jute bags, with or without polyethylene lining, holding about 100 kg net each or in new jute bags with or without polyethylene lining holding 50 kg net each.

The 100 kg bags weigh 800 grammes, the 50 kg bags weigh about 600 grammes. Five-layer paper bags of 50 kg net.

Four-layer paper bags, with paraffined lining, of 25 kg net.

Cotton bags of 25 kg net. Cotton bags of 10 kg net.

Retail 1 kg packings in balloons of 10 kg.

Retail packing of sugar cubes in cartons of 1 kg and boxes holding 20 cartons.

Upon special request the sugar can also be loaded in bulk. This mainly refers to the raw and industrial sugar grades.

Sugar from Poland is dispatched via the ports of Gdynia, Gdańsk and Szczecin. Tramps are loaded in those harbours at the rate of 250 t/day and hatch, maximum 1,000 tons/day and ship. The Polish Ocean Lines maintain regular services from the said Polish ports to all continents.

Forwarding of sugar is arranged by the firm of C. Hartwig which has its offices in all ports.

Due to specialized and experienced forwarding and excellent outfit of the harbours ROLIMPEX is able to ensure to all buyers the prompt delivery of sugar consignments by liner vessels or tramps.

For 20 years now ROLIMPEX Foreign Trade Enterprise is exporting Polish sugar. As a sugar supplier ROLIMPEX has won the reputation of an experienced, specialized and reliable party.





# Sundries

in the so-called cooling of the dough which had been leavened much earlier. A good baker leavened the honey cake dough on the day of his daughter's birth and baked it only on the day of her wedding.

A new apple variety bred in Poland has been named "Fantazja" and obtained by Prof. Dr Aleksander Rejman from the Agricultural University of Warsaw by means of crossbreeding two much favoured apple varieties; Mc Intosh and Lindy. "Fantazja" is featured by sweet-sourish taste and it can be grown in practically every region of Poland.

The Co-operative Fruit and Vegetable Processing Enterprise in Strzyniec, Bialski district, has undertaken the production of cucumbers in brine which are pasteurized according to a special recipe. The novelty has already attracted the interest of foreign buyers and first orders have been made for the delivery of 100 tons of the cucumbers to England and the U.S.A.

The fruit and vegetable processing factory in Lipsk on the Vistula is specializing in export production. Recently the processing of onions in vinegar, brine and caramel has been started. Polish onions are destined for England; the British customers have submitted orders providing for the delivery of up to 200 tons of the article.

Polish onions enjoy a firm reputation on the world markets. Another confirmation of this fact came recently when Chile, the powerful onion exporter, purchased in Poland a sizeable quantity of 3,000 tons of onions. In compliance to the customer's special request, only onions of diametres ranging from 50—70 mm were selected. More than 60 per cent of the consignment comes from the principal onion growing region, that is Łęczyca and Łowicz.

Every year in autumn and winter railway vans loaded full with fresh silver fir branches travel from the Rzeszów, Kielce and Kraków voivodeships to the "LAS" Enterprise base in Rzepin. From Rzepin substantial quantities of Polish silver fir sprigs intended for decoration purposes are dispatched to West Berlin. And thus in 1970 about 1,000 tons of silver fir greenery left Poland through Rzepin.

In 1970 11 Wielkopolska half-blood horses (Mazurian type) from the State Horse Stud in Piekity (Morąg district) were sold to Switzerland, the Federal Republic of Germany, Denmark and Sweden. At the latest auction in Braniewo, the sport-type gelding "Kenof" went for 140 thousand zloties, while a mare "Sumatra" found a buyer for 120 thousand zloties. At present the Stud intends to sell abroad a sport-type mare "Arnica" which has been estimated by experts at 200 thousand zloties. The outstanding value of the mare — "Arnica" is more expensive than the latest model of a Polish made passenger car "Fiat" — lies in her extraordinary jumping power.

## THE CAREER OF FROZEN FOODSTUFFS

Frozen food products have made an enormous career all over the world. Human organism needs vitamins all the year round. For instance in winter, a defrosted strawberry with its delicious flavour and natural taste is a real titbit!

Not so long ago, the farthest place reached by Polish strawberries was Hamburg, where they arrived directly from Poznań or Kalisz in huge refrigerated trucks. Some strawberries travelled by plane to England. But those were very extensive trips. Last year, for the first time, Polish frozen strawberries crossed the Ocean. The route is as follows: from Poznań (the main delivery base for these exports) large, truck-mounted containers carry the frozen products to the port in Hamburg where — without opening the containers — reloading on ships follows. Strawberries arrive overseas in an excellent condition.

## POLISH VODKA IN 60 COUNTRIES

Polish vodka enjoys unfailing success on foreign markets. "Polish Vodka" stands for high quality and the finest brand, particularly in such countries as: the USA, GFR, Austria, Belgium, Czechoslovakia, Denmark, France, Italy, Canada and Switzerland.

In spite of keen competition on world markets and high duties imposed by some countries, Polish vodkas win new sales markets. Nowadays they are exported to 60 countries.

Mostly in demand among foreign customers are Vodka Wyborowa, Bizon Vodka, Rowan Vodka and Soplica. At international exhibitions and fairs, among others in Brussels, Ljubljana, Leipzig, Luxemburg and Paris, Polish Vodkas have been awarded so far more than 30 gold and silver medals and many distinctions and prizes.

## "FORDON'S" NEW PRODUCTS

The production of Fordon Works of Fruit and Vegetable Preserves is for years highly valued by gourmets. The factory, however, does not stop at its present achievements and plans the production of new market commodities. It began, among others, the production of karotene oil which is the basic component

The French Institut National d'Etudes Demographiques poll on women's household activities has revealed that more than half of the time she devotes to housework a woman spends in her kitchen. According to the results of the poll other domestic occupations — in terms of the time share — range as follows: cooking meals — 34.9 per cent, preparations for cooking — 14 per cent, mending clothes — 7.2 per cent, washing up — 5.4 per cent, while ironing only 1.2 per cent.

Scientists have stated that in inland areas children grow only during spring, whereas at the seaside the process lasts throughout summer.

Facing the worldwide protein deficit, scientists are seeking its new sources in non-agricultural raw materials. One of the most commonly applied methods to achieve this end is yeast breeding which results in the production of protein substances from carbohydrates and mineral salts. The technology is employed in Poland, too, but only regarding fodder yeast production. In future it will be possible to process industrial yeast into products serving direct human consumption.

In a salt mine in Wieliczka a salt works system dating back to the 10th or 11th century has been discovered. The system consists of containers for salt brine and special ducts feeding the solution. A lot of earthen shells found nearby are probably remains of utensils which were used in the evaporation of salt brine. The discovery is of a worldwide importance as a sensational contribution to the research on the origins of salt production.

The staple fare of Poland's rural population toward the end of the 18th century and in the first half of the 19th century was made up of cereals and vegetables. Meat was served on a peasant's table on rare occasions only, such as baptism, wedding or religious festivals. No wonder, since the peasant had to take all the more valuable products to the market to get some money for meeting pressing household needs.

Glucose appears not only in grapes, but also in potatoes. It is precisely from potatoes that the Potato Industry Works in Łomża will extract the valuable substance necessary in preparing various nutritive products.

One of the NASA scientists took pains to define the value of particular elements found

The quantity of iron which would be enough to make quite a big nail ...

The amount of calcium which would suffice to whitewash a small doghouse ...

The amount of sulphur which would allow to kill all the fleas on the same dog's hair ...

The total amount of ingredients is priced at ... one dollar. Which does not mean, however, that a man is worth that little!

Green lettuce was introduced into the Polish cuisine by Queen Bona. Even earlier than that Polish gentry who visited Italy became familiar with the vegetable which, however, was held in common contempt. In the Poland of today lettuce is one of the most popular vegetables, because of its taste virtues, and first of all on account of its remarkable content of vitamin C.

About 30 localities all over the world, both towns and rural settlements, bear the name of WARSZAWA. It is estimated that in the U.S.A. alone there are 24 WARSZAWAS, whereas France has 2, and Australia, Canada, Greece and the Soviet Union one each. It is hard to find out today why many places assumed the name of Poland's capital.

In Fukier's wine shop you could always get the world's oldest wines. For example, in the Retmańska cellar 300 bottles of Tokay from 1606 were stored, as well as wines dating back to 1684 — 1727, and a total of 5,000 bottles of one-hundred-years old wine. The entire wine stock was confiscated by the Germans in 1939.

The building which houses the wine shop is situated at the Old Town Market in Warsaw. Erected in the middle of the 15th century by a Wrocław merchant, Jerzy Korba, the house changed owners, each of whom dealt in wine trade, until in 1810 it was purchased by Florian Fukier. It is by his name that the wine shop has been called ever since. During the Warsaw Uprising of the last war, the Fukier house shared the fate of all the other Old Town houses. Nowadays, reconstructed with great pietism and its former beauty restored, it again draws numbers of Warsaw inhabitants as well as foreign visitors.

The meat of rabbits is considered to be the most wholesome kind of meat due to its high content of easily digestible protein, at a low content of fat and harmful substances. In the latter respect rabbit meat is superior even to the poultry white meat.

... of Gdańsk honey cake can be traced back as far as the 15th century. The secret of its unique taste consisted



The works began also the production of canned string beans in quantities of 100—200 tons annually. This year, the first shipment of horseradish will be exported to France. If the connoisseurs on the river Seine will accept this novelty for their meals, the horseradish will become a perpetual export item of the Fordon Works.

### LARCHES 35 METERS HIGH

The larch reservation of Chel'mowa Góra in the Świętokrzyskie Mountains is several centuries old. There are many trees in the reservation, among them magnificent specimens with trunks of several-meter circumference and about 35 metres high.

The larch forest near Chel'mowa Góra gives annually hundreds of kilograms of seeds which are sown in trees nurseries. Larch seeds are also delivered for export.

### SALT ... FROM WATER

Coal mines of the Rybnik, Coal Mining District are famous far beyond Poland's borders, since high-quality coking coal from Rybnik has a well-established renown on foreign markets. Less publicity is given to the other raw material extracted from Rybnik coalfields, that is ... salt. Owing to the up-to-date method of desalinating underground waters, salt has come to be another important product of the region. The novel method of separating salt from coal-mine waters has aroused a lively interest in a great many coal-mining countries. In recognition of her internationally leading position in the field, Poland received a special United Nations fund for the promotion of related scientific research.

It is envisaged that by 1980 four coal-mine waters desalination plants will be erected in the Rybnik Coal-Mining District, producing salt for medical and commercial purposes. Salt obtained from coal mines is likely to offer a solution to the salt problem presently faced by the Polish economy, thereby eliminating the necessity of constructing a new deep salt mine

### A BEVERAGE PRODUCING MAGIC EFFECTS

A legend says that the Greek god Dionysus, prepared a beverage which had a most prodigious effect on the behaviour of the person who drank it. At first the drinker felt light and merry and kept singing as a bird. The more he drank, the stronger and more courageous he was growing, becoming indeed as brave as a lion. Yet having consumed an excessive amount of the "divine" liquor he was unwell, drowsy, lazy and stupefied — showing resemblance to a donkey rather than a human being.

Over two thousand years have passed since the legend was born. And yet Dionysian liquor continues to give strength and bring money to a great many people, especially those inhabiting central and southern Italy, Portugal, Spain and Balkan countries. It has become an integral part of the French cultural traditions, is penetrating into other cultures, appealing to ever more people and nations. The past two decades marked its triumphal entry also into the Polish territory.

In Poland, it must be admitted, the consumption of wine has remarkably outdistanced the knowledge of this beverage, although the latter should be inseparable from wine supplies onto our festive tables. Because, as old wine experts say, wine is not to be drunk, it is to be celebrated. What do we "celebrate" with during our festive occasions? About 15 per cent of Polish wines are brand wines which embrace 70 kinds of fruit wines, each possessing its own original name, 10 grape wines and honey wines of 12 types. The latter — meads, are a typically Polish speciality boasting of fine historical traditions, and at the same time our national contribution to the worldwide development of alcoholic beverages.

For the benefit of those who may not know what a mead actually is, a few words of information. By adding water to liquid bees honey (clarified honey), a solution called honey wort is obtained which is subsequently subjected to fermentation to produce mead. The colour, flavour and taste of the mead depend on the fragrance of etheric oils found in flower nectares. Uniflorous meads, such as July mead, for example, recall with their flavour the plant from which the nectar was gathered. Meads have a wide gamut of colours, from almost colourless (e.g. acacia or colza mead), through all shades of yellow, to dark brownish (for instance, buckwheat or heather mead). Meads are comparatively expensive, but since their value is well worth the price, characteristically shaped decorative "bulgy" bottles provided with sealing wax stamps are in great demand on foreign markets.

Our wines (their export having by now attained the level of 2—3 million litres per year) are purchased primarily by the Soviet Union and recently also Hungary, and to be sure our Magyar brothers cannot be suspected of ignorance in the matters of wine. The USA have also a meaningful share in our wine sales amounting to 400—500 thousand litres a year.

### ONE MUST KNOW HOW TO DRINK WINE

Experienced wine specialists hold the opinion that wine drinking constitutes the most civilized way of satisfying man's demand for alcohol.

However, one must know how to drink wine. Wine whets appetite and helps digestion, but even the best wine if serving fails to comply with due principles will not meet the consumer's expectations or give him pleasure.

Let us remind several rules generally observed here: — white table dry wines are served with: caviare, sardines, oysters, crayfish, lobsters, fish, poultry, veal, ham, eggs, cheese, asparagus;

— white table semi-dry wine accompanies: fish in white sauce, meat pie, tongues, liver, brains, poultry, veal, asparagus, macaroni, green peas, beans. The above dishes may be accompanied also by white table dry wines;

— red table dry wines are served with: ham, sirloin, salami, kidneys, livers, gamemeat, beef, pork, mutton, roast poultry, roast meats;

— red table semi-dry wines are served with: roast poultry, roast meats, game meat, mutton;

— dessert wines (semi-sweet, sweet, very sweet and liquor) are served with tea biscuits, finger biscuits, cakes, tarts, layer cakes, fruit, desserts of all kinds and black coffee.

Meads are served in the same manner as dessert wines;

— sparkling wines (champagne), white dry and semi-dry, should be served just as white table wines, whereas semi-sweet and sweet — as dessert wines.

### THIRST-GUENCHING, REFRESHING, DISINFECTING...

On hot days when one perspires profusely the best way to quench thirst is to drink lightly salted and cooled vegetable stock which replenishes the mineral elements lost by human organism through perspiration. Paradoxically enough, the same result will be acquired with hot lightly sweetened tea which is a most effective thirst-quencher, especially if served with a slice of lemon (with peel to enhance the aroma, but thoroughly washed in warm water with a brush, then rinsed and dried).

A light peppermint infusion (fresh or dried leaves may be used) is also highly recommendable, since it not only satisfies thirst, refreshes, but at the same time disinfects alimentary canal and alleviates liver trouble. Peppermint may be drunk cold or hot, unsweetened or with a small addition of sugar or honey. Instead of peppermint you may depend on St. John's — wort (fresh or dry) for a similar effect. Weak infusion flavoured with a certain addition of fruit syrup or served like tea with sugar and a slice of lemon, is a tasty drink which quenches thirst and has a therapeutic value, too.

Excellent beverages may be prepared on the basis of fresh or sour milk.

What about trying out our suggestions for:

### HONEY DRINK

To make honey drink you will need: 2 litres boiled water 3/4 glass honey, fresh currant juice and sugar to taste. Mix all the ingredients thoroughly and serve cooled.

### MILK DRINK

Take one litre of bilberries or raspberries, wash them, rub through a sieve. Add to the squash 2 litres of boiled, cooled milk, whipping it strong and fast until arises. Serve cool.

### WHEY BEVERAGE

Strain through a thick sieve 3 litres of whey, add 4 spoonfuls of chopped dill, 4 spoonfuls of chopped chive, 2 bunches of chopped radishes. All vegetables must be carefully cleaned, washed and drained prior to use. Season with salt and sugar to taste. Cool and serve.

### WHAT'S NEW IN THE FOOD INDUSTRY?

#### REFRIGERATING INDUSTRY

Two new cold stores were turned over for use in the fourth quarter of 1970: in Bydgoszcz and in Poznań. Putting two new cold stores into operation will considerably increase the refrigerating potential of two voivodships with a developed food industry. This will enable to further develop their production of frozen products and the storage of food articles destined both for supplying the local and home market and for export.

Twenty-five per-cent of the total production of frozen fruit and vegetables come from the HORTEX specialistic refrigerating plant in Góra Kalwaria. Over 9,500 tons of vegetables and fruit were frozen there in 1970, and the freezing capacity of this plant will become greater during the next three years. Similar, but smaller refrigerating plants are being built by the horticultural cooperatives in Łęzajsk, Lipsk, Przysusze and Radzyń Podlaski. The first two plants will be turned over for operation in 1972, the remaining ones in 1971.

The assortment of the products of the HORTEX refrigerating plant in Góra Kalwaria is steadily expanding. The production of fruit ice cream, fruit concentrates in portioned wrapping foils, frozen French fried potatoes, noodles, potato pancakes etc. is to be undertaken there in the near future.

HORTEX products are delivered both for the home market and for export.

#### FISH INDUSTRY

The post of manager of the Nigerian enterprise MESURADO in Lagos, capital city of Nigeria, has been filled by Mr. Władysław Sońta, former manager of the Foreign Trade Office, Union of Fisheries „RYBEX". The Mesurado firm deals in fish and fish products and provides refrigeration. Entrusting the management of the Nigerian enterprise to the Szczecin specialist bears testimony of the esteem held for Polish professionals

### BEER — MALT INDUSTRY

The group of scientists, headed by K. Madajewski of the Plant Breeding Station of Łągowniki, District of Inowrocław, is conducting work on the cultivation of a "superbarley" for the brewing industry.

The micro malt-house, organized there three years ago, is a great aid in carrying out these scientific purposes. It enables to carry out laboratory investigations on malt grains of breeds included in the experiments. Owing to this, work on cultivation can be easily and rapidly corrected.

An idea of interest is the establishment of a small brewery in Łągowniki where beer will be produced from barley varieties investigated at the station. This will be the first post of that sort in Poland and one of the few in Europe. We may hope that with such favourable conditions obtaining varieties of barley that are characterized by the highest technological values is a matter of the very near future.

### FERMENTATIONAL INDUSTRY

TOAST — a Polish champagne, produced on champagne yeast, without artificial aeration, is already mellowing for several months past in coolers. TOAST is produced in the LAS Processing Plant of Kłodzko and has been highly evaluated by the specialists of the Institute of Fermentation Industry.

### DELICATESSEN SALAD

Poland's fame for her high level of vegetable growing has already become traditional. The present vegetable cultivation area allows the crops to reach 3.5 — 4 million tons per year. The annual consumption share of a statistical Pole comes up to 90 kgs, the surplus quantities being delivered to foreign markets. In this connection it is worthwhile to know that the average per capita consumption of vegetables in Switzerland amounts to 77 kgs, whereas in Great Britain and Hungary to 60 kgs. In the framework of the present discussion on the development of vegetable growing in the period 1971—75, suggestions are being made to raise the production of vegetables to 5.6 million tons, thereby increasing the home consumption as well as export deliveries. Only a certain proportion of the enormous volume of vegetable crops is consumed fresh (i.e. raw), whereas the major part is directed for further processing.

The fact that Poland has the largest greenhouse area in Europe is not yet universally known. Meanwhile within the borders of Great Warsaw and particularly in Jabłonna, Legionowo and Nowy Dwór Mazowiecki, where the greenhouse vegetable culture is concentrated, hotbeds occupy the area of 400 thousand square metres. Experts maintain this is the top figure in the continent — no other country can boast of such achievements in this sphere.

Hotbed cultivation embraces primarily early vegetables for direct consumption such as lettuce, radishes, cucumbers and tomatoes, offered to consumers during severe winter in January and February. Every year a total of 2.5 thousand tons of precious vitamins appear on the market in the very period when they are in the greatest demand. At the same time freight cars leave the Warsaw rail junction carrying green lettuce and cucumbers to our customers abroad: the German Democratic Republic, Czechoslovakia, while smaller consignments travel in vans and by ferry to our Baltic neighbours. The deliveries, which make up for 60 per cent of our entire crops of early vegetables grown in greenhouses, find ready buyers in Sweden, Finland and many other countries.

### LIVE GAME FOR EXPORT

The Koszalin voivodeship is earning the reputation of the leading exporter of game and forest crops. It is from this region that ANIMEX Import Export Enterprise obtains the most substantial quantities of live game: wild boar, roe deer and deer for breeding. Live game are caught into nets and following a careful inspection and selection, shipped abroad.

Plans for the current hunting season provided also for the export of over 1,000 live hares to West Europe, chiefly to France. Upon delivery hares are freed to raise the number of this species in the importing country.

It is worthwhile to mention that the surplus of game in the Koszalin voivodeship has also its adverse effects on the region's economy, since wild-living animals are responsible for serious damages to forests and agricultural crops. Every year indemnities paid to farmers by way of compensation for losses suffered amount to millions of zloties.

Lekkie jak puch

### LIGHT AS DOWN

The breeding of poultry and particularly geese is extremely widespread in the Polish countryside. Owing to the natural breeding conditions ensured throughout the year, both in winter and summer, feather and down obtained from the poultry feature outstanding delicacy and lightness. Small wonder it is for many years now that Poland has enjoyed a firmly established reputation as an exporter of feather, down and other feather products.

The fine quality of feather from Poland was officially recognized in 1960 by the International Feather Congress held in Salzburg (Austria).

The Congress expressed a high appraisal for methods employed by the Polish feather processing industry, careful sorting, washing and cleaning of down and feathers, as well as packaging of commodities destined for export.

Detailed information regarding the export of Polish feather articles is available on request from the sole exporter: ANIMEX, Foreign Trade Enterprise, Warszawa.



### Coffee, Tea and Cocoa Beans

Superintendence of coffee, tea and cocoa beans carried out by POLCARGO covers:

- classification of quality — (organoleptic assessment),
- sampling for quality assessment, testing and arbitration purposes,
- ascertainment of quantity (checkweighing, taring, tallying),
- checking of packing and supervision of stowage.

All these proceedings take place in strict accordance with the rules of international associations such as: The New York Coffee and Sugar Exchange, Coffee Trade Federation — London, Cocoa Association — London or other as provided for in the contract concerned.

POLCARGO has its own laboratory, with up-to-date equipment for analysis of coffee. Its personnel consists of highly qualified specialists with training obtained in various scientific institutes, roasting plants, in Brazilian coffee centres including I.B.C. Brazil as well as on coffee plantations.

POLCARGO specialists carry out full laboratory and organoleptic testing of the commodity as well as assess "cup quality".

### Oil Seeds

POLCARGO inspectors carry out superintendence of oil seeds such as: rapeseed, hemp, soya, sesame, groundnuts, palm kernels etc. covering:

- quality examination (visual and ascertainment of free acid contents),



- check weighing and ascertainment of quality,
- sampling for quality assessment and arbitration purposes,
- inspection of ship's holds or other means of transport if cleanliness,
- supervision of transshipment and stowage.

### Grain

POLCARGO inspectors effect superintendence of all grain both within export and import as well as that passing through in transit. This embraces:

- quality assessment (impurities, moisture content, hectolitre weight, uniformity of grain, gluten content, glassiness colour, odour as well as infestation by parasites),
- checkweighing and quality ascertainment,
- sampling,
- inspection of vessel's holds and other means of transport cleanliness,
- supervision of transshipment and stowage.

Examination and chemical analyses are performed in POLCARGO's own laboratories with up-to-date equipment by highly qualified and specialized personnel with long years of experience.

All these operations are carried out in accordance with the Polish standards or the rules contained in the typical London, Antwerp German-Dutch, Italian, Paris and Danish standard contracts.

POLCARGO is renowned for its impartiality — and remarkable professional knowledge of its inspectors.



INTERNATIONAL SUPERINTENDENCE AND TESTING SERVICES

Gdynia-Poland ul. Żeromskiego 32

Cable: Polcargos, Phone: 21-39-21, Telex: 051-247

International Superintendence and Testing Services, Gdynia — carries out through its own specialists and inspectors within the foodstuff and agricultural line: sampling, inspection of quality, ascertainment of weight and quantity as well laboratory testing resp. all the goods in the line, including coffee, tea, cocoa beans, oil seeds and grain, both in Poland and abroad.



# When was the First Poznań Fair Held



Guide books for tourists say that the first Poznań home fair was held in 1921 and the first international one in 1925. History, on the other hand, states that these events go as far back as more than 500 years ago.

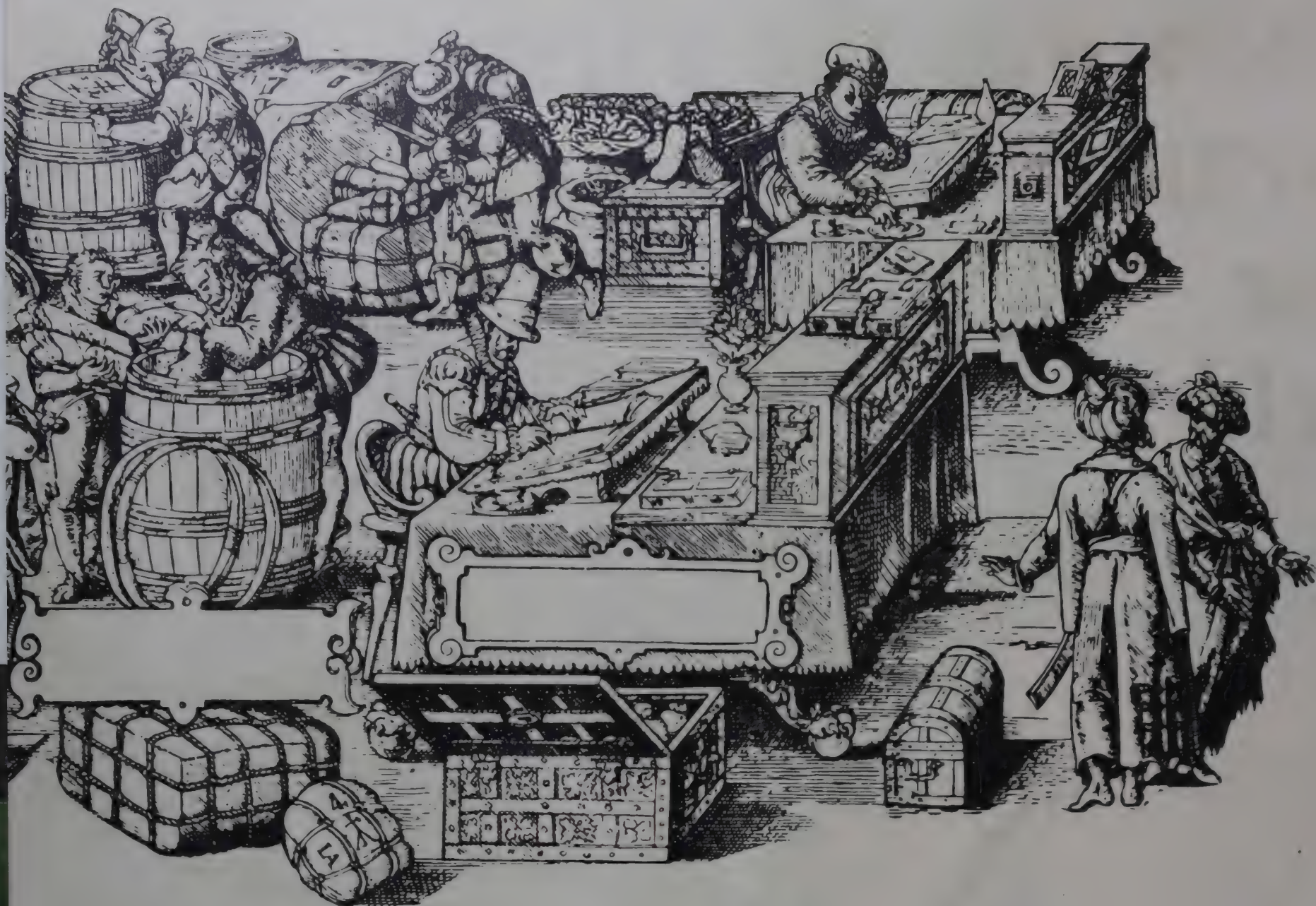
In 1254 the Polish king Przemysław granted a charter by virtue of which mediaeval merchants coming to Poznań for fairs were exempted from paying duty. During seven centuries Poznań became one of the main centres of world trade. Poznań, which is situated in the central point of the river Warta Valley received in 1394 from King Władysław Jagiełło the right of free trade and became one of the great commercial centres of Europe. Poznań owed its strong position on the commercial map of mediaeval Europe primarily to its advantageous geographical position. The town lay on the crossing of great trade routes leading from the East to the West and from the South to the North. Here used to intersect the transport routes of timber, brick, tar, charcoal, wax, etc. Because of

the route from Ruthenia through Zhitomir and Lwów, Radom and Poznań to Magdeburg and Leipzig, Poznań took up commercial contacts with Tartar countries, Moldavia, Turkey and the ports of the Black Sea. By this road leather, furs, wax, hemp, flax, etc. were delivered to the West. From Western Europe were brought woolen cloth, metal products, glassware, leather, delicate fabrics and artistic articles.

In 1452 the Polish Sejm (Parliament) constituted the so-called "St. John's Day Fair". Since that date every year on the feast of St. John the city was visited by throngs of merchants from all over Europe.

A clear proof of the liveliness of the St. John's Day and Dominican fairs of those days are the huge — for those times — transactions negotiated. Thus annually during this St. John's Day Fair Poznań became the world fur exchange. To mention but one of the contracts in those days: the sale of 840,000 grey-squirrel furs and 5,000 valuable sable skins. In the years 1509—1552 more than 50,000 head of cuttle, which were bought in Ruthenia, Podolia and Moldavia and exported to the West European markets, were driven through Poznań. In those days such transactions were big ones. In the XVI-th century Poznań also became the most important centre in Poland of trade in woolen cloth and wool. From the





middle of the XVII-th century to the early years of the XX-th century trade in Poznań went through various ups and downs. After 1790 trade in grain, timber for ships and staves and parquet-flooring boards developed considerably. During the first half of the XIX-th century trade in wool attained great importance. In those days Poznań was visited by merchants from Sweden, Great Britain, France and Germany. The start of the modern history of the Poznań International Fair is set for the year 1925. In that year the first international meeting of exhibitors from 11 countries took place. In 1928 the Poznań International Fair became a member of the Association of International Fairs and was granted the rights of a founder member of the association. Since that date, every year, up to the outbreak of World War II, this international commercial event attracted

foreign exhibitors and businessmen mainly from European countries.

An especially wide expansion of the Fair occurred only after the liberation of Poland from the Hitlerite occupation. The exhibitive area of the Fair was considerably enlarged. From year to year the number of exhibitors increased. After an interruption during the years 1950--1954 the Fair was restarted in 1955. Poznań became a centre of exchange of goods between the East and the West.

In 1970, in the XXXIX-th International Fair 40 countries from all the continents participated and the number of individual exhibitors and of exhibitors organized in collective exhibitions (representing their countries) amounted to 5,512 of whom 3540 were exhibitors from abroad. Today the total area of the Fair covers 164,050 sq.m of which

131,290 sq.m are occupied by the exhibitive area. In 1970 machines and industrial equipment occupied 63.4 per cent of the exhibitive area and industrial consumer goods 19.2 per cent.

In connection with the ever growing demand for additional exhibitive area further investments are foreseen in this line.

The large number of exhibitors and of visitors to the Poznań Fair every year (in 1970 the Fair was visited by 432,496 persons) is proof of its popularity both at home and abroad. The 40-th successive Poznań International Fair will be again a rendez-vous of industrialists and businessmen from all continents. It will be also a symbol of economic, technical and scientific and cultural cooperation a link linking all countries irrespective of their political and economic structure.



# FOOD

*from Poland*

Review of Exports of Agricultural Products and Foodstuffs

N. 3(39)





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### Our cover:

"In the garden"

A painting by Olga Boznańska (1865—1940)

Olga Poznańska was born in Kraków; she died in Paris. She studied in Kraków, then in Munich with Kricheldorf and Wilhelm Durr (1886—1889). After a long stay in Kraków she left again in 1893 for Munich, from where, in 1898, she moved to Paris for good.

She exhibited her first paintings during her studies (Munich, Kraków, Paris), but it was only after her exhibition in Vienna in 1893 that she found full appreciation (Golden Medal for the portrait of Paul Nauen). Since 1898 she belonged to the Association of Polish Artists "Sztuka" (Art), and from 1901 she was a member of Société Nationale des Beaux Arts in Paris. She painted mainly portraits — figural studies, among other things, "In the garden", flower-pieces, landscapes and interiors.

The main features of her works are winsom simplicity, an apt representation of the model, succinct expression and a great sensivity for colour. Her individual and highly original painting style is a result of a natural interpretation of impressionist principles, of which Boznańska adopted a bright colour scale, maintaining however a colouring base on local tones.

# OUR EDITORIAL

Foreign markets and in particular the traditional importers of Polish food-stuffs have felt, for more than two years, that is since 1969, a decrease in the exports of this branch of economic production. That was directly caused by the unfavorable atmospheric conditions in the 1968/1969 and 1969/1970 seasons, which had repercussions on the whole of agricultural production. Consequently, a setback in cattle-breeding occurred almost in every farm all over the country. Farmers all over the world are fighting against the whims of weather. Similar situations occur at different periods and in different countries. These are well known facts. In such cases it's the foreign trade which come to the country's rescue. It's just then, that the necessity of foreign trade, of international exchange, becomes manifest. But under Poland's conditions, the decrease of food-stuff exports was also influenced by yet other facts, the main of which is the remodeling of the economy—from a simply agricultural to an industrial-and-agricultural one. The increase of the contry's purchasing power, caused by the rise in wages of some workers' groups had a strong impact on the volume of Poland's food exports in the first half of 1971. In connection with the situation arisen—Poland, a traditional exporter of food products, known by their high quality, was even constrained to import these products. Besides the stepped-up traditional imports of southern fruits, spices and also other southern raw materials, necessary for the food undustry, we bought abroad some quantities of meat



and cereals, thus maintaining stability on the home market. But a turn for the better took place during the second half of 1971. It was marked by an extension of the production of food-stuffs. Unless the atmospheric conditions play a trick on us, we shall be able to speak of a resumption of these exports as in the most propitious years, if not even of their augmentation. It should be stated, that subjective factors, apart from objective conditions, to a great, if not decisive, extent exert an influence upon the development of agricultural production. To them belong, primarily, the remunerativeness of the agricultural production. The next, but not less important, problem is the state assistance for the development of investments in farms, in supplying the farmers with necessary means for animal breeding and the development of other cultures, assistance for getting the necessary production means, professional training and finally, an adequate, efficient sales organization of their products. In the present state of development of industrial food processing and refrigeration it is possible to reduce to a minimum the impact of the objective factors i.e. atmospheric conditions, provided that all subjective elements, and particularly the farmers' interest in production, shall be maintained. It does not mean, that atmospheric conditions, years of bad crops are without significance. It is enough to look back to the years 1969 and 1970 to become convinced of the influence of atmospheric conditions on agricultural production. According to the relevant data the state investment planned for these years for food industry have been fully accomplished. But not all of the plants put into operation attained their full capacity. Anyway, nearly 45 per cent of the processing plants could not

utilize their full capacity in 1969, due to the shortage of raw materials and, for these reasons, the same holds for 1970 for 25 per cent of the plants.

Poor crops and a set-back in the animal breeding as a result of the bad crops were the causes of a considerable shortage in deliveries to the processing plants. As it may be seen from the above, climatic conditions cannot be ignored in agricultural production. However, their damaging impact can be considerably diminished.

What do we note in the second half of 1971? Higher prices paid to the farmers for some animal and vegetable products produced a stimulus for increasing animal breeding and for developing plant cultivation. It may be felt on the market, that conditions created to a profitable agricultural production have already produced effects. But that is only the beginning. To increase animal breeding every farm will automatically expand and build; it will build according to modern scientific principles of zoo- and agrotechnics. In this respect, the State will grant considerable assistance to agriculture.

In the years 1971—1975 it is provided to deliver to farms large quantities of a great variety of machines and implements, necessary for harvesting, animal breeding and the preparation of fodder. For the sake of illustration we shall mention only some of them. Agriculture will then receive more than 220,000 mowers; more than 15,000 pickup balers; 15,000 "Orkan" strippers; 16,000 field straw cutters and crop cutters; 60,000 tedrakes and more than 100,000 horse-rakes.

They will get, moreover, about 170,000 fans, grain crushers, coal and electric steamers and great quantities of various implements,

necessary for the organization of animal breeding in newly built stock-farms.

That should help, in effect, in doing away with the shortage in the mechanization of agricultural production, in the preservation of fodder, but first of all, it will modernize and make agricultural work easier. If we add to that an augmentation of expert assistance of the agricultural service on every farm, genuine prospects of overcoming the deadlock are appearing.

We mentioned already the necessity of granting assistance to farmers in marketing their products.

A considerable help are contracts between farmers and the Government for the supply of agricultural products. The agricultural and food industry buys most of its raw materials through contracts. The meat industry, for instance, in 1970 thus obtained 85 per cent of swine and some 72 per cent of cattle. It is already a form used in practice and a method suitable for the farmers for regulating the size and kind for the agricultural production. By the way of contracts it is established how much one should sow and plant, how much cattle and swine should be bred for the home market and exports. It is forecast, for instance, that as a result of agriculture utilizing the financial and material means allocated by the Government, an increase by 3,5 million head of pigs and 1,6 million head of cattle will be achieved at the end of 1975.

Recapitulating, one may state, basing on the observation of what has been done in the first half of 1971, that foreign trade enterprises shall be able to start at the end of this year signing contracts with their former and new customers on the basis of a new stock of food products.

*Józef Korzeniowski*



# Poland

## The Largest Exporter of Venison in Europe



Poland's geographical position and relatively harsh climatic conditions produce particularly favourable conditions for the development of forest economy.

Polish forests are under special care owing to their great economic, climatic and health-promoting importance. It is intended to extend the percentage of wooded country through a rational administration in this domain. Indeed, the area occupied by forests expands from year to year. In 1969 forests took up 26,8 per cent of the country's total area, whereas in 1946 the percentage of forests amounted to only 20,8 per cent. In view of the foreseen afforestation of grounds unfit for other purposes, a further increase of forest areas may be expected in our country.

Numerous, vast forests are situated on Polish territory. Some are under special State protection, being granted the status of national parks or sanctuaries. The national parks and sanctuaries spread out on a total area of about 150,000 hectares. The State protection includes, among other things, the Białowieża, Augustów, Niepołomice and other primeval forests.

To the specific features of Polish forests may be reckoned the abundance of the flora, the variety of tree and shrub species and the diversified undergrowth.

Forests, next to fields, meadows, pastures, ponds and rivers are a natural biologic habitat for numerous kinds of game and game fowl. These territories became a natural habitat for game, which find there advanta-





# Polish Dishes

# PEX

## PEX 1971





In September 1971, ROLIMPEX, Foreign Trade Enterprise will celebrate the 20th anniversary of its activities. During the experience of the first post World War II years of Poland's rebuilding the idea was born to organize the foreign trade activities within the organizational frames of an individual state enterprise of definite branch specialization.

rate enterprise was established mainly for these products.

Thus the ROLIMPEX activities concentrated on the trade in bulk agricultural products which, undoubtedly, increased the commercial competence and efficiency of this enterprise.

During recent years annual turnovers of ROLIMPEX oscillated around the sum of 250 to 300 million US dollars and the volume of goods ranged between 3,500,000 to 4,000,000 tons. The entire enterprise is managed by a General Director while commercial activities are grouped within four branch departments headed by Directors responsible for the respective scope of activities:

Grain Department — exports and imports consumption and fodder grain and grain-milling industry products;

— brewery raw materials — barley, malt, hops;

Sugar Department — exports and imports sugar, sugar products — molasses, beet pulp, dried sugar beet, dried roots;

director's advisory body. The majority of goods handled by ROLIMPEX is shipped by sea.

In order to improve the forwarding of goods shipped or arriving by sea the Enterprise has a branch office in Gdynia and a representation in Szczecin. Two decades of regular daily cooperation with the food and agricultural industry unions and direct contracts with production plants created conditions for complete discernment of the export possibilities of Poland's industry and of its import requirements. Not without importance is the fact that together with the company's anniversary a similar jubilee is celebrated by numerous members of its staff.

ROLIMPEX carries on wide commercial activities on world markets and is the partner of important firms in developed countries and maintains well established contacts with large companies in developing countries. A considerable role in the enterprise's work play commercial relations with the socialist countries.

In the line of certain goods, such as: consumption and fodder grain, rice, oil seeds, oil, concentrated foodstuff and seeds, ROLIMPEX — as an importer — is an important partner on the world

# Twenty years of

**O**n the basis of this organizational assumption in September 1951 the Foreign Trade Enterprise ROLIMPEX was set up as the sole state enterprise

handling the imports and exports of food products of vegetable origin.

The reconstruction and rebuilding of the food industry, increase of agricultural production and growing demands of the population were paralleled by a rapid rise of ROLIMPEX turnovers both in the line of imports and exports.

The enterprise's activities embraced a rapidly rebuilding and economically developing country whose population was soon to hit the 30 million mark, and the scope of ROLIMPEX activities became gradually too extensive and did not warrant the indispensable commercial efficiency of all the work handled. In the sixties the range and diversity of products was extremely wide. It embraced bulk goods such as grain, sugar, seeds, tobacco, tropical products and, furthermore, articles for direct consumption such as confectionery products, alcoholic beverages, processed fruit, etc. Simultaneously the export of processed consumer products was developed

— exports potato industry products for consumption, fodder and technical purposes;

Fat Department — exports oil seeds, and oils — rapeseed, rapeseed oil and other oil industry products;

— imports oil seeds, oils and fats for the requirements of Poland's oil industry, chemical and cosmetic industry;

— rice, concentrated feed-stuffs and raw materials for the fodder industry;

Seed Department — exports and imports agricultural seeds, garden seeds and seedlings, forest seeds and seedlings;

— exports and imports medicinal herbs and spices.

The department directors together with the finance director and chief economist form the Board of Directors. This Board is the general

market. Numerous goods exported by ROLIMPEX play an important part in foreign turnovers of European and overseas countries.

ROLIMPEX as an exporter of several hundred thousands tons of sugar annually is among the leading world exporters. The main buyers of Polish sugar in Europe are Great Britain, France, Norway, Finland, Spain and Greece, in Africa: the Arab countries, Sudan, Ghana, in Asia: Ceylon, Iran, Pakistan, in America: Chile.

Also a great part on the world market plays the Polish export of brewing barley, malt and potato starch. Brewing barley — of which some 200,000 tons are exported every year — is sold mainly in Europe and South American countries. In all there are 20 countries to which Polish barley is regularly delivered. In Europe the largest quantities are imported by Denmark, Sweden and Holland, overseas — Japan, Brazil, Venezuela, Nigeria and Singapore.

In the line of potato starch Poland is Europe's leading exporter. The list of main buyers of this product contains Great Britain, Switzerland, Spain, Peru and Hong-Kong. Annual exports from Poland of potato starch amount to more than



0,000 tons. In recent years ROLIMPEX entered the world markets with considerable quantities of rapeseeds, rapeseed oil and rye. The export of rapeseeds in 1970 almost hit the 50,000 tons mark, that of rapeseed oil — 40,000 tons. The export of special quality rye, used for baking special kinds of bread, averaged about 40,000 tons per year.

An important item in ROLIMPEX turnovers represent feeders — rapeseed meal, dried sugar beet, beet pulp, potato flakes and pulp, lupine. The total export of all these products amounts to about 100,000 tons annually. It is directed to the European markets. To the same markets are exported about 30,000 tons of molasses.

Following the rapid development of seed production in Poland, ROLIMPEX became Europe's leading exporter of seeds. Grass seeds, seeds of cruciferae and leguminous plants and root crops — mainly sugar beet — find regular buyers in Europe and overseas. At the same time the export of vegetable seeds and flower seeds as well as seedlings of shrubs and garden or forest trees is developing. Under favourable climatic and soil conditions very good results

are achieved. The Ministry of Agriculture as well as in research laboratories of branch industry unions. A special inspection system has been developed for export products. In the production plants these products are additionally tested and selected by a highly skilled staff. Irrespective of the plants' internal quality inspection and supervision of unions, each lot of product is routinely checked by inspectors from the Quality Inspection Office, an institution directly subordinated to the Ministry of Foreign Trade. Products not conforming to the determined standards or contract conditions are rejected by the Quality Inspection Office and are not allowed to leave the country.

A separate domain forms the inspection of seeds. Following rigorous quality and cleanness regulations applied in Poland for many years now the seed industry has developed a special seed qualifying system which was subsequently recognized and accepted by the OECD. The high quality of seeds is ensured by the seven Seed Qualifying Stations — members of the International Seed Testing Association CISTA — which are authorized to issue "Orange" certi-

# ROLIMPEX

have been attained by ROLIMPEX in the organization of exports of agricultural seeds and seeds of root crops.

It is worth while to mention that ROLIMPEX is an important exporter of medicinal herbs and spices. Their quality depends on the most advantageous harvesting timing, drying and very careful sorting. Considerable amounts of the herbs raw material consist of wildly growing plants — these have a particularly good aroma.

ROLIMPEX occupies a high position on the international market. ROLIMPEX owes, to a considerable degree, to the high quality of goods offered. Polish agricultural products have won a high mark already long ago, in times when Poland was a predominantly agricultural country. This was favoured by the extremely advantageous for agriculture climatic and soil conditions prevailing in Poland. A considerable influence upon the competitiveness of our agricultural-food products is exerted — in addition to the said favourable natural conditions and tradition — also by the importance attached to this production not only by the farmers but also by Polish authorities. Export problems occupy an important place in the work of scientific institutes of the Ministry of Food Industry and Food Pur-

chase. The activities of ROLIMPEX are not confined to commercial dealings only. The Company's representatives take part in the work of international organizations whose task it is to develop commercial relations between countries and to improve the quality of goods.

ROLIMPEX is the member of:

- Union Européenne du Commerce du Houblon
  - Fédération Internationale du Commerce de Semences (FIS)
  - Hindu-Polish Chamber of Commerce and Industry
  - Finnish-Polish Association of Tradesmen
  - Polish-Belgian-Luxembourg Chamber of Commerce
  - Swedish-Polish Chamber of Commerce
  - Polish-Yugoslav Chamber of Commerce
- Poland is also a member of the International Sugar Council.

Furthermore, ROLIMPEX representatives also participate in the work of the International Seed Testing Association (ISTA), the Institut International de Recherches Betteravières (IIRB) and in the work and deliberations of FAO in the line of products handled by ROLIMPEX.

## EXPORTS

SUGAR

SUGAR BEET MOLASSES

DRIED SUGAR BEET SLICES

DRIED SUGAR BEET PULP

DRIED CHICORY ROOTS

MILLING RYE

OATS

RYE GERMS

BUCKWHEAT SHELLS

BREWING BARLEY

BREWER'S MALT

HOPS

RAPESEED

CRUDE RAPESEED OIL

RAPESEED MEAL

MACARONI

POTATO STARCH

MODIFIED STARCHES

DEXTRINE

INSTANT POTATO CRISPS

POTATO PULP for FEEDING PURPOSES

SUGAR and FODDER BEET SEEDS

GRASS and FODDER PLANT SEEDS

VEGETABLE and FLOWER SEEDS

FEEDING SEEDS

TREE SEEDS

ORNAMENTAL TREES and SHRUBS

FOREST TREE SEEDLINGS

MEDICINAL HERBS and SPICES

MULTIPLICATION of SEEDS

## IMPORTS

GRAIN

RICE

OILS and FATS

OILSEEDS

OILCAKES

FODDER PLANT SEEDS

VEGETABLE and FLOWER SEEDS

MEDICINAL HERBS





**Twenty years  
of ROLIMPEX**



ous conditions of existen-  
e and evolution. The Polish  
rests are a shelter for such  
imals as bison, deer, elks,  
allow-deer, wild boars, roe-  
deer, lynxes, wolves, bad-  
gers, foxes and hares —  
nd of wild fowl — black-  
grouse, wood grouse and  
ther. Thanks to the protec-  
on system some of the  
imals, such as bison and  
ks, have been saved from  
total annihilation. Even now  
reat flocks of these animals  
n be encountered in pri-  
aeval forests and woods  
nder entirely natural, wild  
onditions. The number of  
g game-population is main-  
tained in our forests in  
portions appropriated to  
e forests' feeding possibi-  
ies. As far as small game  
e concerned their flocks  
e systematically increas-  
g. This is achieved owing  
adequate operation and  
assistance of hunting clubs,  
mekeepers (reasonable  
lection, supplementary fe-  
ing — chiefly in winter,  
terinary care) and also  
rough regulating the catch  
d hunting seasons. The  
man intervention and assi-  
ance in the forest's exis-  
nce does not attenuate,  
der Polish conditions, the  
ours of the harsh struggle  
survival, led by the inha-  
ants of fields and forests.  
e required selection of the  
imal population is brought  
out by the natural activity  
goshawks, foxes, wolves  
d other beasts of prey,  
nich pursue and make  
eir prey of powerless,  
eakend and sick animals,  
ffit to improve the spe-  
es. Only strong and healthy  
imals, characterized by  
arp, self-preservation in-  
ncts, survive.



*A successful  
hunt —  
means  
good  
mood  
and  
a healthy  
appetite.  
And  
then  
a glass  
of  
Vodka  
Wyborowa —  
is  
just  
the  
thing  
you  
need.  
The  
best  
vodkas  
are  
exported  
from  
Poland  
by  
Agros  
Warszawa  
Poland  
Żurawia 32134*

It is comprehensible, that  
under these conditions Po-  
land should be treated as  
a hunter's paradise. Hunting  
is a pleasant hobby for nu-  
merous Poles. During the  
hunting season our country  
is visited by ever greater  
numbers of hunters from  
abroad. Good old traditions  
and customs going back to  
immemorial times have been  
maintained in Poland in the  
domain of hunting. This re-  
fers to the most beautiful,  
age-old hunting customs and  
laws which regulate also  
nowadays this beautiful do-  
main of man's life. Of parti-  
cular popularity is here, wild  
boar, roe-deer and stag  
shooting and also partridge  
and pheasant shooting.

The large numbers of game  
stock and wild fowl main-  
taining in Poland represent  
a great wealth for the natio-  
nal economy. Great amounts  
of game and wing game  
both in form of game and  
wild fowl shot during the  
hunting season and as live  
animals caught are attained  
every year. A large part of  
game and live animals is  
traditionally selected for  
exports. Poland has recen-  
tly become the largest ex-  
porter in Europe of game  
in carcasses, frozen portions  
and preserves and live game.  
In order to get a better  
notion of the extent of ex-  
port activity in this domain  
we shall present some spe-  
cific data. And so, the fo-  
reign currency income from  
exports of live and dressed  
game and game preserves  
attained a value of an order  
of over six million US dol-  
lars in the 1969/1970 sea-  
son. The exports comprised:  
more than 90,000 live hares,  
more than 55,000 live pheas-

sants, more than 50,000 live  
partridges and about 1000-  
3000 tons of various dressed  
game and game products.  
High quality, health and  
high resistance to diseases  
render Polish game an ex-  
cellent reproduction ma-  
terial. Numerous European  
countries, fully appreciating  
these facts, raise the quali-  
ty of their own game through  
imports of Polish reproduc-  
tion flock. France and Italy  
are the main importers of our  
live hares, pheasants and  
partridges. Bison, wild bo-  
ars, roe deer or stags form  
relatively smaller export  
items. Game catching is or-  
ganized in districts, where  
game quality is the highest.

The equipment used and  
the catching methods, pro-  
tect the animals against ex-  
haustion and possible inju-  
ries.

A constant veterinary con-  
trol over the animal popu-  
lation is maintained in the  
hunting-grounds in order to  
ensure adequate health con-  
ditions of the game caught.  
One of the forms of control  
consists in special shots,  
destined for culling-out  
sanitary examinations. The  
game caught is under con-  
stant official veterinary con-  
trol. This system of the ve-  
terinary service makes possi-  
ble and guarantees delivery  
of exclusively healthy and  
strong animals for exports.

Live game is delivered to  
foreign customers from spe-  
cial dispatching bases, by  
fast transportation means  
under the care of trained  
escorts, whose duty is,  
among other things, to feed  
the animals during transpor-  
tation, to secure adequate  
climatization and also the





punctual arrival of shipments to foreign customers.

The following procedure is practiced when selecting live game according to sexes: hares are shipped in arrangements of 2 females and 1 male or 1 : 1, partridges—in a proportion of 1 : 1, pheasants in the ratio of 1 male to 3 females, while big game is dispatched according to the customers' requirements.

Dressed game makes valuable raw material for meat

and hides and finds ready foreign markets.

Game meat possesses specific organoleptic (taste and fragrance) values, highly appreciated by gourmets; it is healthy and contains very little fat. It is characterized by a relatively high content of protein and mineral salts. For several years now new methods for refining the trading form of meat have been applied in Polish game exports, which meets the requirements of foreign mar-

kets and present-day trends in international trade. The mentioned refinement is carried into effect in the following processing lines:

- hare meat (frozen, unskinned carcasses, culinary meat in parts as for instance frozen saddles, haunches, shoulders and preserves)
- venison meat in parts: frozen saddles, haunches and shoulders, boneless meat and preserves)
- wild boar meat (meat in parts: frozen hams, joints,

shoulders, bacons, collar and preserves)

- wild fowl (partridges, pheasants, wild ducks) plucked and dressed carcasses and preserves.

The processing of game carcasses and meat parts is carried out in plants authorized to export under official control of veterinarians. The careful processing and high quality of game are highly appreciated and enjoy an excellent reputation in wide





circles of West European consumers. The mode of preparation of the articles guarantees that they are perfect for culinary use and need no further processing. Game carcasses and meat in parts are packed in polyethylene bags, then, in cardboard boxes for shipping. The Union of Forest Production "Las" is the main supplier of live animals and game for exports. Large amounts of live game are also delivered by specialized

enterprises subordinated to the Ministry of Agriculture and the Ministry of Forestry.

*Antoni Plomiński*

**The sole exporter  
of game products and  
live game is the ANIMEX  
Foreign Trade Enterprise,  
Export and Import  
of Animal Products,  
Warszawa 12,  
Puławska 14, Poland**



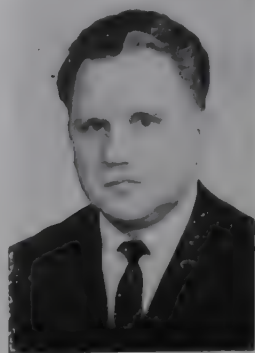
In world output of milk Poland is fifth or sixth, next to the Soviet Union, the United States, France, the German Federal Republic, and in the past 10 years either ahead of, or just behind Great Britain. Hence we are decidedly in among the leaders in milk production in the world. In per-capita production, Poland is in the first ten. The purchasing of milk from farmers and the processing is done by dairy cooperatives of which farmers are members.

The outstanding economic achievements of which the Polish dairy cooperative movement may boast of, are a result of intensive social-organizational work over many years. The roots of the movement go back to late 19th-century, when the first dairy associations — not yet cooperatives in the present meaning of the word — began to be organized. But these only were the mere beginnings from which dairy cooperatives developed in the inter-war world war period. But even then no major changes for the better were effected. An indication of the level of development of the dairy industry at that time is the fact that in 1938 dairy cooperatives purchased about one billion liters of milk and exported 13,200 tons of butter.

During World War II most of the fixed assets perished, while the technical equipment was destroyed.

It was only in People's Poland that a rapid development of the dairy cooperatives occurred. By 1960 there were 670 dairy cooperatives associating about 700,000 members. They purchased and processed in one year nearly four billion liters of milk. Now, as a result of concentration and specialization of production, we have in Poland 390 Dairy Cooperatives with an annual processing capacity of over 5.5 billion liters of milk.

Polish agriculture is characterized by an overwhelming proportion of small, privately-owned peasant farms. This the dairy cooperatives have to take into account in their organization of purchasing.



Our readers who take an interest in the organization of Polish cooperatives and the dairy products exported from Poland, will undoubtedly care to read a statement recently made by the President of the Central Union of Dairy Cooperatives, Mr. Józef Janczak.

# In the first ten

The steadily growing numbers of cooperative members and milk suppliers are due to the various services and the extensive assistance given to breeder farmers by dairy cooperatives. In the first place they provide them with a constant sales market, advantageous conditions of delivery and fixed prices, irrespective of the quantity of delivery. The dairy cooperatives supply the suppliers with high-quality concentrated fodders and seeds of fodder crops such as maize, clover, lucerne, grasses, etc. At the same time dairy cooperatives enable the farmers to obtain credits for buying pedigree cows and heifers. The cows and herds of milk suppliers are looked after by veterinary surgeons to ensure a proper health standard of animals.

An important attainment of dairy cooperatives is their social character of work at all organizational levels. The activities of dairy cooperatives are controlled by boards and supervised by supervisory councils. These are principal organs of cooperative self-government elected by general meetings of members. In addition, so-called committees of suppliers operate in every milk purchasing centre. Their main duty is to supervise the personnel employed there, and to ensure permanent contact between the cooperative, board, supervisory council, and milk suppliers in the village where the purchasing point is located.

The high share of our country in the world milk output naturally makes us follow with keen interest the dairy development trends abroad especially considering that Poland is an exporter of many dairy products and that these exports will be continued.

Extensive economic, technical and scientific cooperation between the Polish dairy cooperatives representing the Polish dairy industry and those in other countries is, and has to be, in the centre of our attention, if only because we want to expand effectively the sales markets of dairy products, and to shape correctly the paths of development of the dairy industry in Poland. With this end in view, we have cultivated technical, scientific and economic cooperation with





countries, primarily those where the standards of technology, organization and economy of the dairy industry are high.

Extensive opportunities for influencing standardization, research, organization and technical progress, are furnished by participation in the work of the National Dairy Union of which Poland became a member in 1959.

The interest of the Polish dairy industry in this cooperation went primarily in the direction of organization of production of machines and equipment. In recent years, technical progress covered cooperative dairies on a broad front. Complete machines are exchanged for new. Production capacity of old plants is increased through expansion and modernization, but above all new dairy plants fitted with complete, modern machinery, are built.

The interest of the Polish dairy industry in this cooperation progressed further in the direction of organization of technological processes with special emphasis laid on new varieties of production. The variety range of dairy products has substantially expanded.

As a result of good cooperation with Denmark, we have organized production and exports of many machines and installations (exporters: ANIMEX-CEKOP Polish Export and Import Company for Machines Ltd., Warszawa Czarny Błot 7/9, Poland).

Regarding technology, extensive use has been made of practical training and scholarships in Denmark, France, Sweden and Switzerland. Practical training chiefly concerned cheese-making, powdered milk and dairy products. As a result of this training, an improvement has been made in production of cheese paste, mouldy cheese-type cheeses, and hard ripening cheeses.

At the same time, progress has been made in the field of milk processing: the making of condensed milk and particularly powdered milk, the quality of which matches the highest world standards. Production of household milk and

## Not only in England

Cheddar cheese was produced for the first time in the 13th century in the Village of Cheddar, lying in the County of Somersetshire in southwestern England. The cheese is produced at present, besides England and America, in all the countries of the American community and in many European and overseas countries. This type of cheese, for instance, is the most popular in Australia and its production in the 5th continent was begun in the second half of the previous century — to be accurate in 1862, hence 108 years ago, in the creamery in Kameruk. We remind that the production of Cheddar type cheese was begun in Poland in the last decade by the creamery in Chorzele and Ryki in the Voivodship of Warsaw.

# ANIMEX

dairy products has also been expanded and improved.

At this point it is necessary to stress the special part played by cooperation with UNICEF, an international child-welfare organization. With assistance from this organization a number of powdered milk factories and dairy plants in towns have been built.

We attach particular importance to the quality of our products for export. Consequently, our experts actively participate in standardization work in the international field, particularly within the framework of FAO (Food and Agricultural Organization).

As regards exports of Polish dairy products, our most important commodity, butter, is mainly exported to Great Britain.

The second largest export item is casein. Thanks to the high quality of our casein, Poland has won an important position as one of the leading producers of this commodity.

Finally, the exports of hard cheeses, particularly "Tylzycki", "Gouda" and "Edamski" are expanding successfully.

I would like to stress in conclusion that all dairy products exported from Poland are checked by specialist laboratories of the dairy industry, and in addition, before shipment by sea or rail, they are subjected to State inspection effected by the Quality Inspection Office, which passes the goods as compatible with the quality and packaging standards and also the importer's requirements. Only then are the products allowed to cross the frontier of Poland.

*Feliks Kotowicz*

**Editor's note : We wish to remind our Readers that the exporter of Polish dairy products is ANIMEX Foreign Trade Enterprise, Warszawa, Puławska 14. All letters and queries with regard to dairy exports should be addressed there.**





# **Poland**

**—a world breeder  
of geese**







The Union of the Egg-and-Poultry Industry is a leading organization in the food department. That is so because the volume of the production organized and products bought up by the Union places is fourth next to the meat, dry goods and sugar industries. However, as far as deliveries for export are concerned, the Union holds second place. It will suffice if we say that the Union gives an annual production to the value of some 100 million U.S. dollars. In the 20 enterprises and more than 60 production departments associated within the Union more than 18,000 persons are employed. The Union is managed according to departmental organization. Due to the kind of production it has a number of specialistic, scientific-and-research sections and laboratories, where products are checked and examined. Apart from that many scientific experiments are carried on aimed at the breeding and obtaining of the best breeds and species of poultry and sorts of eggs exported from Poland.

The Managing director of the Union is a renowned specialist in this field — Engineer Dr. Jerzy Szeliga.

A representative of Food from Poland obtained an interview with Director J. Szeliga on the activities and scope of production of the Union of the Egg-and-Poultry Industry.

The activities of Our Union — Director Szeliga said — are very varied.

They embrace both contractation as well as buying up and next processing of the bought up egg-and-poultry articles, and also their improvement and sales.

I will start — Director Szeliga went on — with the most mass product, the production of which run into millions and export embraces millions of units; namely eggs in various forms: fresh eggs, powder egg, powder egg white, yolk powder, albumen, egg paste — divided and whole. Our entire turnover with these articles is derived from attached to farmstead production involving on an average chicken-farming of 12—14 tons per farm. Our purchase points — and there are more than 28,000 of them — not only buy up products from farms but also assist them by pro-

viding fodder. This assistance is of special importance during the winter and autumn seasons. This permits us to level out seasonality. Obviously this does not exhaust the problem. Luck of space in this article limits the possibility of presenting the problem fully to the Reader. May we add only that Poland is among the larger producers of eggs in Europe. Annual production amounts to more than 7,000 million eggs of which 500—700 million are earmarked for export. It should be noted that due to attached to farmstead chicken-farming, thus breeding based on natural conditions, Polish eggs are unrivalled. The colour of the yolk, which is particularly important in cake baking, is perfect.

Also due to the natural conditions of breeding Polish eggs are matchless in taste and durability. This product, both in the fresh form as well as processed for industrial purposes, has abroad its regular customers. Among these are, for example Austria, Switzerland, Italy, the Soviet Union, Great Britain and even far away Japan.

As far as poultry is concerned — Director Szeliga said — exports are largely defined by the home market. The fact of the dynamic rise in home sales of poultry deserves attention. It is estimated that up to 1975 consumption of poultry in Poland will be doubled. But the readers of your periodical are interested in exports.

What is the Union of the Egg-and-Poultry Industry doing in this line? Well, we wish to stress that we are foreseeing a rise in the sphere of poultry delivered by peasants. The leading item in poultry exports is the Polish goose. We call it thus because we managed to breed a goose the main characteristics of which are an ideal size, proportion of meat to bone and high virtues of taste. I will repeat what our breeders say — this goose is a real treasure.

One of the particular virtues of poultry forming is expansive raising of geese, which forces them to constant movement. This prevents fat accumulation during feeding. If we take into consideration the fact that in addition to the feed





which geese find for themselves they are given improved fodder in the form of oats, we will disclose the secret of raising Polish geese. Low fertility of geese is a known fact, that is why not only in Poland production of geese did not rise. The average fertility of geese amounted to 7—9 goslings per year. As a result of experimentation over a long period of time we switched over to artificial hatching with a natural system of raising, and now we obtain up to 30 goslings from one goose. In this way we are increasing production and are creating a more fertile type of goose. This will enable us to increase exports of this article which is in such high demand on markets abroad. Each goose before slaughter gets 10 kg of oats on which it is fed during 16—22 days. Geese on this diet obtain a 2—3 mm layer of fat which makes their meat tasty and productive. Customers in the German Federal Republic know this best — as they buy the largest number of our geese.

Poland is the largest world producer of geese. It may be stressed that our specialists are working on the improvement of technological processes. Nevertheless, to preserve

the highest quality of dead fowl the system of hand-plucking of feathers is continued.

The fact that in 1970 there was not one complaint as to quality — and annual turnovers amount to more than three million geese — may be an indication of quality and taste virtues of our goose.

The next poultry export item is the duck. Our speciality is a meat type duck. It is known that the duck is more inclined to accumulate fat. This is a basic problem. We solve this problem primarily by eliminating from poultry farming groups of ducks which show the greatest tendency to accumulate fat, and secondly we do not carry on intensive rinsing which speeds up that process. We are constantly carrying on research as to how reduce fat accumulation in ducks. Our breeders in raising ducks keep them much in the sunshine, fresh air and facilitate their access to water. We diversify their fodder. A Polish duck earmarked for export is 8—9 weeks old and weighs 2.2—2.5 kg. Such a duck is most tasty and is therefore bought abroad. During the year we easily sell more than 6,000 ton of ducks to buyers abroad.

Among the largest buyers are the

German Federal Republic, France and Austria.

The Polish duck and goose hold a leading place in European poultry turnovers. Further items which are the subject of our activities, therefore also of export, are the white turkey and guinea fowl.

In addition to standard poultry, our slaughter-houses carry on specialistic fattening of geese for the production of so-called fat-saturated liver for making the renowned Strasbourg pâté de foie gras. The Strasbourg pâté is delicious side-dish. Due to the development of artificial poultry breeding-boilers — in the countries of our customers, we are limiting exports of chickens. We export 2,000 tons of specially packed cooked chickens.

Poland has traditions of many years standing in exports of feathers and down. This improved article obtained from geese of high quality is hand-plucked and therefore willing bought by buyers in the United States, Great Britain and in the German Federal Republic.

From what I have said one can realize that we reckon exports of our products as exclusive exports. They are limited to some selected markets. These are markets setting



a high degree of requirements before the breeder and exporter and with great traditions of cooperation with Poland. That is why the breeder — the Union of the Egg-and-Poultry Industry — is faced with all the more important tasks, tasks which we are endeavouring to fulfil.

To supplement what I have said — Director Szeliga went on — it should be added that the sanitary standard, equipment and modernization of our plants is ever improving. The state assigns for these aims large sums which we allocate not only

for improvement of breeding and production but also for the betterment of working conditions. We are providing for a marked increase in the near future of the production of poultry.

This will make possible an increase in exports and a further strengthening of our position on foreign markets.

To end I would like to add, that the exporter of our poultry and feathers is the renowned ANIMEX Foreign Trade Enterprise.

*Interview by J. Korzeniowski*

**Tasty  
and wholesome  
high-quality meat  
products exported**



**by Animex  
Warszawa, Poland,  
Puławska 14**







## That there be more fruit than bread

**Professor,  
Dr. Szczepan  
Pieniążek.**

*Could you, Mr. Professor, tell us first a few words about yourself*

I was born in a peasant family in the district of Garwolin in 1913. During the years 1933—1938 I studied botany at the University of Warszawa.

In 1938 the National Culture Fund offered me a scholarship and post-graduate studies in the United States on the condition that I change my specialization and engage myself in fruit-growing. I studied at Cornell University, Ithaca, New York up to 1942 when I received my doctor's degree. Next for four years I worked — first as an assistant and later as a professor — at the chair of fruit-growing of Rhode Island University, Kingston, Rhode Island. In the spring of 1946 I returned to Poland and took over the Chair of Fruits-growing at the Main School of Farming in Warszawa and took up residence in Skierniewice, where, in 1951, I organized the Institute of Fruit-Growing, of which I am director until this day.

*What was the state of Polish fruit-growing after your return to Poland?*

Immediately after World War II Polish fruit-growing was in a pitiful state. In 1946 fruit production per capita amounted to barely one fifth of the amount considered necessary by experts on rational feeding. It was the young professor's dream to bring about in Poland that there be as much fruit as bread.

*Did your dreams come true Mr. Professor?*

Yes, of more than the one hundred and fifty scientific workers working in the Institute of Fruit-Growing at Skierniewice, the majority are my pupils and of these almost 20 are professors and associate professors and more than 40 have their doctor's degree. The Institute has very well equipped laboratories in Skierniewice and 11 local establishments in various regions of the country which are most appropriate for fruit-cultivation. Thus the Institute radiates throughout the country and the evidence of its activities are already very visible.

Poland today produces almost a million and a half tons of fruit which means about 50 kg annually per one inhabitant. The latest statistical data indicate, for example, that the average fruit crop in Poland for the years 1966—1969 amounted to almost 50 per cent more than in the previous analogous period of time. It may be said that our possibilities were fully taken advantage of. Already today the average, statistical Pole consumes twice, and even three times as many apples as an average American, Britisher or Frenchman does.

Polish fruit-growing suffered because of the phenomenon of alternating fructification. One year the crops were rich, the next they were poor. My work—Professor Pieniążek said—has led to a regulation of the annual fructification. Already for the sixth succes-

# P o l i s h



**Prof. dr  
Feliks MAŁY**

Prof. dr. Feliks Mały is known in Poland and abroad as an outstanding specialist in hog raising. He conducts the Breeding and Animal Production Institute at the Main School of Farming in Warszawa University.

Professor Feliks Mały is also a member of the Committee for Zootechnical Sciences at the Polish Academy of Sciences, member of the Committee for Pig Breeding and Rearing at the V-th Department of the Polish Academy of Sciences, member of the Committee for Pig Breeding at the Scientific Council of the Ministry of Agriculture and Deputy Chairman of the Union of Pig Breeders. He lectures on production technology of pig breeding before district instructors, including the latest achievements of Polish and world science. He gives

also additional training for advanced persons in Warsaw. He prepares furthermore, a method for wide, mass training of peasant breeders.

Farmers believe the strongest in what has been produced at the farm—says Professor Mały, therefore, a film shot at the farmer's pigstays as well as production technology shown by the farmer himself, makes on them the strongest impression during the training. Consequently, lectures supplemented by large-scale illustrations, diagrams and films are most frequently applied.

Within the range of his work at the Main School of Farming, Professor Mały runs the Test Plant at Brwinów near Warszawa and the Test Pig Farm at Kociszew near Grójec, apart from



five year we have in Poland a similar annual fruit yield.

Strawberries are a separate story. And as barely during 12 years (between the years 1954 and 1966) production of this fruit increased from 10,000 to 50,000 tons, namely 15-fold. Thus Poland became a "strawberry power" and is only second to the United States, which produces annually some 200,000 tons. In this respect Poland leads Italy and Japan.

*Does this mean that in Poland everything has been already done?*

No—answered Professor Pieniążek. In Poland the average price of fruit is higher than that of bread. In fruit-growing, however, one must learn to be patient. The fruit of the present activities will be visible only in 5 to 10 years and then we will see.

*Have your activities and scientific work been duly appreciated?*

I received more distinctions and honours than I deserved—with modesty Professor Pieniążek replied. In 1950 I received a state prize of the second class for my scientific activities. A year later I was appointed associate member of the Polish Academy of Sciences (at the time he was 38 years-old—editor's note).

Since 1962 I am a member of the Presidium of the Polish Academy of

Sciences and since 1966 scientific secretary of the Agricultural and Forestry Sciences Department of the PAS.

May we also add that Professor Pieniążek made many scientific voyages and knows almost the entire fruit-growing world. During the eight years of his work in the United States he came to know that country very well. He has acquainted himself with fruit-growing throughout Europe. In 1963 he was invited by the Australian Academy of Sciences for two months of lectures. On this occasion he went round the world and visited such exotic countries as Japan, New Zealand, the Pacific Islands, Indonesia, Siam, India, China and Korea.

He is also a known active member of international organizations and is a member of many foreign and international scientific societies; for example he was one of the organizers of the Horticultural Sciences International Society and is the chairman of its Fruit-Growing Section. In 1970 he was elected president of that organization. By reason of this he has been interested with the organization of the XIX-th International Horticultural Congress which is to be held in September 1974 in Warszawa.

*Mr. Professor, as far as I know you write a great deal and willingly. What works have you already published?*

In addition to hundreds of popular-scientific articles I have published a textbook for students "Sadownictwo"

(Fruit-Growing), which has attained its fifth edition, a book describing my fruit-growing trips all over the world "Dookoła Sadowniczego Świata" (Around the Fruit-Growing World) (this book has been translated into Czech, Hungarian and Bulgarian). Recently appeared my popular-scientific book "Gdy zakwitną jabłonie" (When Apple-Trees Bloom). Together with my wife—the Professor added—we have written a book entitled "Owoce Krain Dalekich" (Fruit of Distant Lands), the second edition of which will appear within the next few months.

*What would you like to say to end this interview?*

Well, that already today Poland produces more fruit than is the local demand. Considerable quantities of fruit, and especially of strawberries and raspberries, are earmarked for export. Foreign countries willingly buy Polish fruit, as all experts know well that no traces of remains of DDT, or any other dangerous herbicides, can be found on them. Already 10 years ago I brought about the elimination of these agents from the spraying of fruit-growing plants. I brought this about at a time when not much was said about the pollution of natural environment.

As we have learnt, tropical fruits are Professor Szczepan Pieniążek's passion. He is also interested in ancient Greek and Latin culture.

## s c i e n t i s t

Following world bibliography on pig breeding and gathering achievements of Polish agricultural colleges and institutes. The collected experiences and achievements serve not only the students, but also all farmers and world science.

The Polish scientist maintains permanent relations with specialists in pig breeding from various countries. He himself went through a course of study in 1958 with Professor Hjalmar Klausen—a known scientist and practitioner in Copenhagen. He got acquainted with the achievements of Dutch scientists during his stay at the Agricultural Academy in Wageningen, where he attended many lectures of Professor Stegeng, he visited a number of research institutes and breeding farms,

was the guest of the Union of Swedish Pig Breeders in Stockholm and got acquainted with the swine breeding achievements at the University of Uppsala. Professor Feliks Mały was visited in Poland by five representatives of the Swedish Union of Breeders. He was invited, furthermore, by many foreign agricultural academies in order to deliver lectures on "The elements of pig breeding in Poland". He also delivered similar lectures in: Berlin, Prague, Sofia, Budapest, Bucharest and Moscow.

In the past two years our agriculture was not favoured by fate concluded Professor Mały.

Our swine breeds and in particular the Polish Large White and the Polish White with Drooping Ears are known and appreciated all over the world.

They are not second to the best foreign breeds. It is in countries where Polish ham and imported bacon have been consumed for years that it may best be appreciated how Polish pork is valued.

Professor Feliks Mały has published many scientific publications. About 30 of them have been translated into foreign languages completely or as summaries and among these: "The Characteristics of the Utility of Slaughter Swine of the Polish Great White Breed" and about 10 publications on methods of fattening bacon porkers. He is working at present on the problem of swine breeding intensification.

*Interview by  
Władysław Oryl*





# POLCOOP

Export Offer

## Fruit and Vege- table Pro- ducts...

What is the cause that the quantities of fruit and vegetable products exported by POLCOOP are constantly growing?

**P**oland has excellent climatic and soil conditions for the cultivation of many fruits and vegetables. These conditions are particularly favourable to strawberries, berries and cucumbers and as a result makers of preserves receive ever larger quantities of shapely raw materials for processing.

The main suppliers of fresh fruit and vegetables to our cooperative processors are primarily individual farmers. They favour natural conditions of agricultural production, which is based mainly on the application of natural manure, and avoid chemical means wherever they are not indispensable.

Our fruit and vegetable processing plants are located in all the regions of the country in close vicinity of fruit and vegetable plantations. These are not always large plants, however they ensure a high quality of production as the limiting to a minimum of transportation guarantees true freshness of the raw materials and up-to-date equipment helps to obtain preserves of the highest quality.

The trend towards the application of

up-to-date technological methods is in keeping with the tendency to apply natural preserving agents. Polish regulations limit the use of chemical preserving agents. This determines the competitiveness of Polish preserves.

Production and exports of Polish preserves are controlled by a number of special services—starting from the moment of the reception of the fruit or vegetables up to the moment of the crossing of the frontier. In every factory—in addition to its own inspectorate—hygienic conditions are constantly checked by state sanitary-and-epidemiological inspectors. Moreover the entire production process of articles earmarked for export and the ready goods are checked by the Centralny Inspektorat Standaryzacji (Polish Quality Inspection Office). Only preserves of the highest quality are passed for export and allowed to leave the frontiers of Poland. Thus the CIS sign on the labels of our preserves is a symbol of high quality. CIS inspectors also check whether the packing of goods conforms to the export standards and the provisions of the contract.





It is worth noting that the construction of a POLCOOP export base in Gdańsk has recently been completed. It consists of warehouses and a refrigerating plant. This will improve the storage conditions of preserves and will ensure still greater promptness of deliveries. We have explained why the purchase of POLCOOP fruit and vegetable products is good business and here is a list of some items exported:

**Compotes:** strawberry, raspberry, sour cherry — with or without pips, plum with or without pips (plum halves), berry, blackberry, black current, green-gage, gooseberry.

The sole preserving agent used in the making of Polish compotes is sugar.

The basic packing for all compotes are 0.9 l jars. Apart from that some compotes are offered also in 0.45 l jars and 0.5 and 1 l jars. All compotes are sold under labels of the KRAKUS or POLCOOP brand.

**Fruit syrups:** strawberry, raspberry, sour cherry, black current.

Syrups exported by POLCOOP are made from fresh or pasteurized pulp. They are clear and with a taste and aroma characteristic for the given kind of fruit. They are packed in 0.5 and 0.375 l jars and sold under the POLCOOP brand.

**James:** strawberry, raspberry, sour cherry, plum, black current, blueberry, gooseberry.

Jams exported by POLCOOP are made only from fresh fruit without use of chemical preserving agents or dye-stuffs. Sugar is the sole preserving agent. They are sold under the POLCOOP brand in jars holding 454 g (1 lb).

**Pickled dill cucumbers**—offered in jars and tins of various sizes.  
jars 0.5 l —net weight 490 g, weight of brine 230 g.

jars 0.9 l — net weight 860 g, weight of brine 490 g,

Tins 1 l — net weight 820 g, weight of brine 460 g,

Tins 1 l — net weight 2810 g, weight of brine 1680 g,

Tins 5 l — net weight 4550 g, weight of brine 2600 g,

Tins 9 l — net weight 8170 g, weight of brine 4700 g,

For each package the maximum number of cucumbers is defined as well as the minimum and maximum sizes of cucumbers. Thus we deliver an article of a high standard quality.

That is so for two reasons:

- 1) We have at our disposal excellent raw materials. Polish farmers for more than 100 years boast of excellent results in cucumber cultivation.



2) Cucumbers are processed in a way which increases the high value of this raw material. In the cucumber preservation process we do not use chemicals as we are of the opinion that chemical preserving agents cannot be indifferent to the health. Our cucumbers are crisp, compact, winy and aromatic—they are simply tasty. As a result the quality of our cucumbers is matchless, and a proof of this may be the fact that cucumber producers in other countries sell their article under the name of "Polish cucumbers".

In our opinion really high quality is guaranteed when our cucumbers of the KRAKUS or POLCOOP brand are bought.

**Pasteurized cucumbers in brine**—is an article recently introduced into production. It combines the taste virtues of cucumbers in brine with a useful form of package—1 l tins. These cucumbers are prepared by means of natural fermentation, as a result of which natural lactic acid is formed (without the application of any artificial preserving agents) and next are preserved by pasteurization. They are exported under POLCOOP brand.

**Baby beetroot in vinegar**—are exported in jars:

0.45 l — net weight 270 g

0.9 l — " " 500 g

These are young spherical beets, prepared according to an original Polish recipe, which ensures durability of the product, retainment of the fresh beetroot colour and preservation of the mineral salt content. Despite a modern technology of production they are characterized by the virtues of a "home-made" preserve. We sell our baby beetroots in vinegar under labels of the KRAKUS or POLCOOP brand.

**Baby onions in vinegar**—young, firm and crisp onions are hand-peeled and hand-sorted and next immersed in vinegar with spices added. Baby onions are packed in 0.45 l jars

—net weight of contents 454 g (weight of drained off onions—260 g) and 0.9 l jars—net weight of contents 920 g (weight of drained off onions—520 g) under KRAKUS or POLCOOP labels.

The assortment mentioned is further supplemented by three kinds of **vegetable salads** and **miseria** (sliced cucumber salad) packed in 0.45 l and 0.9 l jars, as well as by **French beans**, whole or cut, in 0.9 l jars 1 kg tins.

All these preserves are also exported under KRAKUS or POLCOOP labels.

You now know the assortment of fruit and vegetable products offered by us and their virtues—please contact us for further information and offers

Our address

POLCOP, Warszawa, Kopernika 30  
Poland

Telex: 81-4451.

Phone: 27-18-31



## Export Offer

### Its History Dates Back to Ancient Times

The value of poppy seed was known already in ancient times and a great deal of information about its cultivation came from ancient Greece to Rome. Romans gave the plant a Latin name of "papaver somniferum".

The first traces of poppy seed cultivation in the Polish territory were found in an Old Slavic settlement of Biskupin. Everything indicates that inhabitants of the village grew the plant as early as several hundred years before our era.

According to the 16th century historian, Szymon Syroński, white, red and grey poppy was known in Poland.

Blue poppy seed grown in Poland at present and known on world markets as "Polish blue poppy seed" is superior in quality to that exported by other countries. The poppy seed is steel-blue in colour, sweet in taste and its high fat content comes up to 44 per cent.

Polish blue poppy seed, carefully packed, is shipped to the U.S.A., the German Federal Republic, Great Britain Sweden, Canada, Switzerland, Italy and even Australia.

The sole exporter of Polish blue poppy seeds is the "Polccoop" Foreign Trade Enterprise, Warszawa, Kopernika 30.

# The Most Assimilable the Organism

The feeding of a family today should primarily take into consideration the usefulness of the dishes consumed to the health of the grown ups and children. The nutritive substance is—as well known—protein and scientists—specialists in problems of nourishment, have already a long time ago proved that protein of animal meat surpasses in nutritive value other proteins (of fish or vegetables). Aminoacids—the components of this protein—are essential—this is worth recalling—for the building of specific corpuscles of the human organism as well as for the production of hormones. It is not indifferent to our health and frame of mind and the preservation of youthful characteristics whether in the meat consumed the content of protein is higher or lower.

Also mineral salts contained in meat are of vital importance for development, growth, daily regeneration of the vitality of organism and its proper functioning. That is why doctors and dietitians are interested in such a meat which is outstanding among all other meats by its content of both protein and mineral salts. Such a meat is rabbit meat.

Scientists have calculated that rabbit meat contains 32.41 per cent of easily assimilable protein (for comparison: chicken meat—only 21.41 per cent, pork—20 per cent and veal barely 19 per cent of protein).

Rabbit meat contains 1,800 calories and the human organism digests it during 2 hours and 15 minutes, when to digest chicken meat 10 minutes more are necessary. For the sake of comparison we will recall that the digestive process of beef lasts 3 hours and 25 minutes, and that of pork even longer depending on the fat content.

This means that rabbit meat also in this respect appears to be the most easily assimilated by the organism.

Examinations of the salt content in rabbit meat have proved that it attains even 1.68 per cent (in chicken meat only 1.49 per cent, in pork—1.66 per cent and in veal only 0.82 per cent).

Among the mineral salts the phosphoric compounds, which are so vital for the regeneration of the strength of the organism of white collar workers and of studying youths, is very advantageous.

The virtues of rabbit meat, its digestibility and delicate taste are universally known. Consumers recognize very well the unique taste of the meat of Polish rabbit (it resembles the taste of turkey) and also know that it is fit for consumption even by persons on various diets. Rabbit meat is recom-





recommended for children and convalescents. Information about the particularly high nutritive value of rabbit meat from Poland has already reached wide circles of customers in Austria. This value is guaranteed both by appropriate breeding methods — selection, cross-breeding of the most valuable breeds — as well as by the proper feeding of rabbits with the best natural fodder.

Obviously also a housewife, wishing to keep a really good, modern figure both for herself and her husband, will appreciate also in this respect the utility of rabbit meat in the home diet. May we add that a diet based on the use in the kitchen of frozen tame rabbit from Poland is neither burdensome or bothersome as it does not require limitations in the quantity of the meal and the meal is tasty and healthy.

This dietetic paradox is easily explained: what we obtain in a lovely figure by other methods, through a tedious slimming diet or a rationing of helpings of other dishes, is attainable at a consumption of tame rabbit meat in a quite a natural way. We mentioned already that specially bred tame rabbits from Poland are outstanding also because of their meat's particular wholesome properties. It, therefore,



will suffice to feed regularly on this most digestible and most valuable of meats for all members of the household to soon feel the beneficial influence on their organism and what follows on their looks and frame of mind.

We specially recommended frozen cut-up rabbits in standardized tray-packs of 1 kg net weight wrapped in thermo-contractible foil. This is a modern assortment adapted to the requirements of supermarkets.

Slughter and processing of tame rabbits is carried out in big plants with the use of up-to-date equipment. The standard of hygiene is very high, be it only for the fact Poland is among the countries which in this respect have strict regulations.

**POLCOOP Foreign Trade Enterprise, of Warszawa, Kopernika 30 constatly adapts its assortment to the present-day and future requirements of clients abroad.**



**H**ow many tasty dishes may be prepared from champignons and what shades of taste may be given them know best housewives, who like to entertain guests and hear their praise. Champignons are served as a garnishing of many a meat, fish or vegetarian dish ..... champignons may be eaten even raw, served as a salad.

The vitamin and nutritive values of champignons are very high. They contain protein, sugar and fat. Moreover they contain vitamins B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, C, D, H also mineral salts which sustain circulatory processes, namely potassium, phosphorus, calcium, iron and much copper.

Since in Poland, as throughout the world, a constantly growing demand for these tasty and valuable mushrooms is noted and as the interest of businessmen from various countries in their purchases is ever increasing, representatives of our periodical visited cultivators of champignons.

\* \* \*

We visited two of them: one of these applies the

box method of cultivation, the second, on the other hand, the traditional shelf system.

Mr. Roman Zawadzki, last year completed the building of an up-to-date champignon-growing cellar. For several years Mr. Zawadzki treated champignon cultivation rather as a hobby. However good results attained and the profitability of the enterprise induced to undertake production on a somewhat larger scale.

He, therefore, took up contacts with the Union of Horticultural Cooperatives, which helped him in the

elaboration of the technical documentation of the project, its architecture and technical parameters. Moreover, by the signing of agreements on deliveries, he ensured for himself the possibility of sale of his production.

The production halls. building consists of six the production halls.

Each of the cultivation halls is fitted out with an air-conditioning system permitting the maintenance of an appropriate temperature and air humidity. The installed equipment provides proper recirculation of air and uniformity of humidity in the

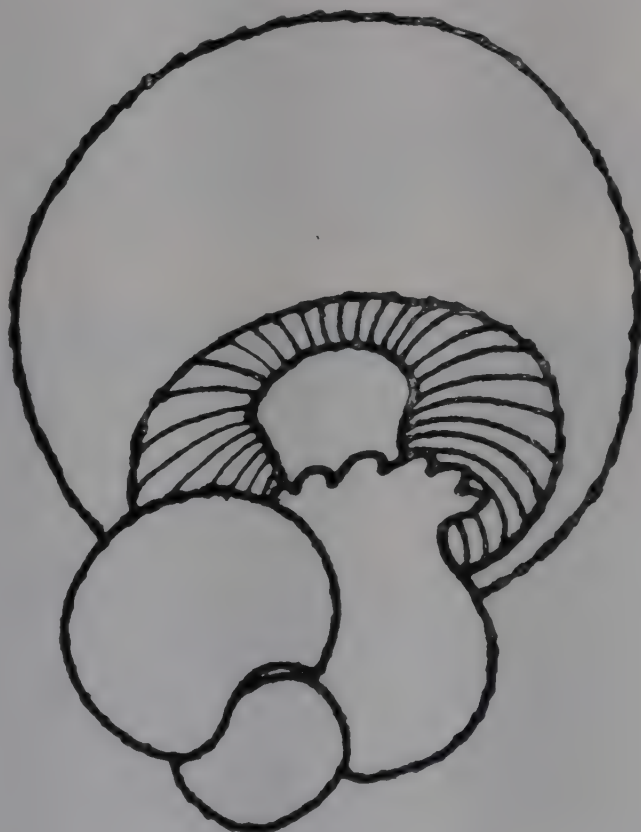
entire building. The air-conditioning system conveys to the halls air which is appropriately warmed up in the winter and cooled in the summer.

### Production Process

Horse manure with an admixture of chicken dung is indispensable.

Fermentation of the manure brought changes it into compost, which in turn, is taken to the pasteurization hall where it is subjected to further production processes. Here in a temperature of 58—60 °C all pests are destroyed. Pasteurization lasts 4 to 5 days after which the manure is cooled down again to 25 °C.

From the pasteurization hall the manure is transported to the manipulation hall where it is mixed with granular mushroom spawn and then transported to the cultivation halls. Here, after seven days of mushroom spawn growth, the compost is covered by a layer of peat, Vistula sand and chalk. This layer is 3—4 cm thick. At this time in the hall the temperature is 28 °C and humidity 75 per cent.



**Garden Champignon  
—a Tasty and  
Healthy Mushrooms**



the fructification period starts after 18—20 days.

The first fructifications are small and white. Gills and small white gills decorate the dark and humid bed. Harvesting time lasts about 90 days.

Average yields obtained by Mr. Roman Zawadzki amount to 13 to 15 kg per square metre.

On completion of the production cycle the production hall with the champignon manure is subjected to thermal disinfection which consists in the introduction to the closed hall of "live" steam at a temperature of 100°C for 48 hours. The aim of this operation is the destruction of pests and germs which may have appeared during the production cycle.

#### **Shelf Production Method and Experimentation**

Engineer Donimirski is engaged in champignon cultivation since 1952. He started production in Poznań where he studied champignon cultivation.

He has three production halls in which he set up two

rows of 8-conditioning shelves which give him some 700 sq.m of cultivation area.

Mr. Donimirski handles annually two production cycles each lasting about 90 days and gets in an average crop of 12 kg of champignons per 1 sq.m. In cultivation he uses as a bed, horse manure, chicken dung and peat with an admixture of chalk as an acidifying agent. The prepared bed is mixed with granular mushroom spawn and after a defined period of time is covered with a layer of peat and with a gravel admixture. On separate plots of ground he is experimenting on

various contents of nitrogen in compost by adding ingredients of vegetable and animal origin. On the plots as well as in the main champignon house no mineral fertilizers or chemical agents are used.

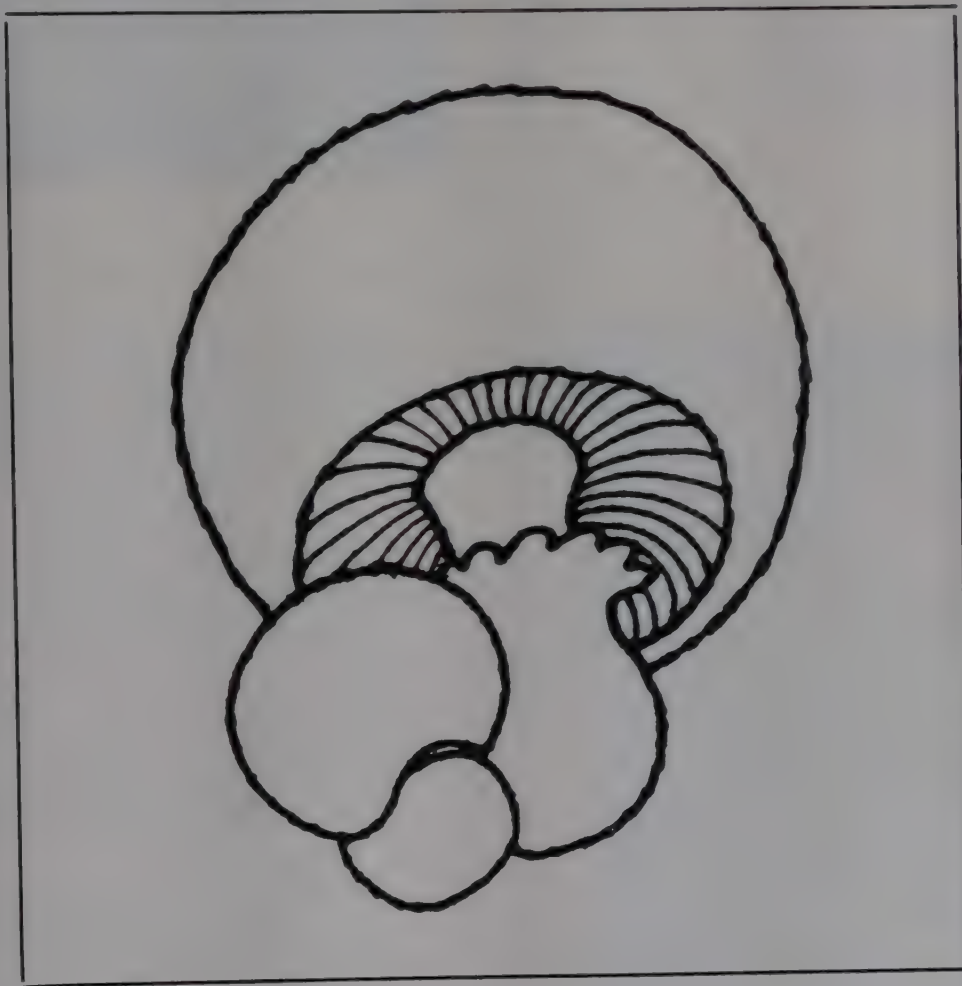
Champignons raised on a natural bed have high nutritive and taste properties and above all have a unique aroma

Through local purchasing points of the Union of Horticultural Cooperatives both these cultivators permanently deliver champignons for export. These champignons fully comply with the requirements of foreign

buyers. The champignons are next checked by inspectors of the Polish Quality Inspection Office and are immediately shipped to buyers in Austria, Sweden, West Berlin, the German Federal Republic, Yugoslavia, Lebanon, Czechoslovakia and other countries.

Lately champignons are ever more commonly shipped abroad by air and truck (refrigerated vans).

This guarantees that customers receive an article which is fresh and in good shape and delivered on time. This enables an efficient distribution to the wholesale and retail trades. The quality of Polish champignons is highly rated due to their appearance (the champignons are white, clean and their caps are closed) as well as due to their durability in storage and especially because of their taste and nutritive values. The latter are the result of the application of natural production methods, carefully elaborated cultivation methods in the line of preparation of the bed, rotation of production cycles, constant care and protection against infections.



**All information as regards the purchase and delivery of champignons is available at HORTTEX, Company for Foreign Trade of the Union of Horticultural Cooperatives,**

**HORTTEX**  
**Warszawa, Warecka 11a, Poland**



# agros

## Short note about Polish vodkas

Vodka, before called "spirit" or "aqua vitae", from Latin, was already known in the Middle Ages but was not drunk so often but used mainly as herb tinctures for the medical purposes and as the universal remedy for various indispositions.

Making of medicinal vodkas was not only well known in the XVIth century but even described in the literature of those days — in old books which can be found in our libraries in Kórnik, in the Warsaw National Library or in the Public Record Office in Warsaw. The scholar herborist Stefan Falimierz wrote in his work "Herbs and Their Power" (published in 1534 by Florian Ungler's Publishing House in Cracow) that various kinds of spirit herb extracts have curative effect, in the chapter entitled "How To Brew Vodkas From Herbs".

Also, Jurek Potański in his book „Vodka and Spirit" published in Cracow in 1614, wrote that "vodka often saves life thanks to its great power and medicinal value".

The secret of manufacturing vodkas, kept closely by monks and pharmaceutical chemists who in the Middle Ages used to make for the magnates medicinal tinctures and "miraculous elixirs of life" which costed

"stiff prices", was soon completely revealed for the public but the spread of production dates since the middle of the XVIIth century when people knew how to distil alcohol from rye and next from cheap potatoes. So, in numerous inns or tap-rooms "okovita" (this name originates from the Latin name "aqua vitae") was made or rather distilled more or less primitively. Okovita was the unrectified rye or potatoe spirit to which herbs, honey, fruit or water were added so as to obtain a ready product for consumption.

Methods of production were being improved gradually and many new books were written at that time e.g. "Distilling of Alcohol Based Upon Recent Discoveries" by Jan Nepomucen Kurowski — the book published in 1829 in Warsaw and describing the technological process of obtaining spirit. However, proper rectification process of unrectified rye or potatoe spirit dates since the middle of the XIXth century when the rectifying apparatuses were used in mass production. Since that time we can speak about the production of alcoholic drinks which taste is very similar to pure alcohol manufactured at present.







ned and packed in the bottles in an "up-to-date" manner. Most bottles are closed in the "Pilferproof" manner — aesthetically and comfortably for consumers.

The assortment of spirit products manufactured at present is very wide and consists of 110 kinds of alcoholic drinks. The leading kind is Wódka Wyborowa, unattainable for many competitive alcohol — producing countries. Wyborowa is often called "The Queen of all vodkas" — is well known and held in good repute on all continents. Poland sells vodkas to 70 countries where they are held in good repute and where the number of consumers is increasing. In recent years 40 medals and distinctions were awarded to the Polish vodkas exhibited at international fairs and exhibitions (3 gold medals for Wyborowa in Leipzig, Ljubljana and Paris).

In 1970 Wyborowa was awarded the special prize (Embleme de Gout et de la Saveur) by the International Institut de Promotion et Prestige in Paris.

This special prize is awarded for outstanding achievements (e.g. Nasa obtained this prize for their first space craft and France for their coloured TV).

At that time many private spirit factories were set up in Poland — in Poznań — Kantorowicz's factory, in Gniezno — Kasproicz's, in Łańcut — Potocki's, in Dziaków — Tarnowskie factory.

After the first World War and after Poland regained independence, the production of pure alcohol was taken over by the Polish State Spirit Monopoly, newly created at that time. However, flavoured spirits were still being manufactured by numerous and sometimes very small private distilleries. After the 2nd World War the production of flavoured and unflavoured alcoholic drinks was concentrated in large and modern factories, completely reorganized (there were a dozen or so of such factories).

Traditional ways of making alcohol, handed down from father to son and kept as a secret, have not been forgotten but later standardized and the rigorous technological process of production is based upon all these traditional ways of production. Vodkas manufactured in modern distilleries have not lost their previous organoleptic values.

Thanks to rigorous methods of production performed in modern and well-equipped distilleries best-quality products are obtained





# agros

## Prize- Winning Vodkas —

Awards and medals, granted at International Fairs and Exhibitions, are, next to the growing exports, a significant testimony for the appreciation, the Polish spirit products enjoy on the international markets. Polish Vodkas carried off in the last few years 16 golden and 19 silver medals and 4 distinctions.

At the International competition of alcoholic beverages at Lubljana golden medals were awarded to:

— Wódka Wyborowa 45° of the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)

— Jarzębiak — Rovan Vodka 40° a product of Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)

— Starka 50° a product of the Szczecińskie Zakłady Przemysłu Spirytusowego (Szczecin Spirit Industry Plant)

— Goldwasser 40° a product of the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)

— Trianon 25° — cocoa eggnog a product of the Śląska Wytwórnia Wódek Gatunkowych (Silesian Quality Liquor Factory).

Silver medals were awarded to the products of Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant):

Krakus Vodka 40°, Wódka Luksusowa 45°, Wiśniówka — Cherry Cordial, Żubrówka — Bison Brand Vodka 40°, Hunter Vodka, Wiśniówka — Cherry, Extra Żytnia 40°, Cassis 35°, Vodka Dry 40°, and Krupnik — Polish Honey Liqueur 40°.

The Sliwowica Paschalna of the Śląska Wytwórnia Wódek Gatunkowych (Silesian Quality Liquor factory) won a distinction. At the Leipzig International Fair golden medals were awarded to:

— Wódka Wyborowa 45°

— Żubrówka — Bison brand Vodka 40°

— Wiśniówka — Cherry Cordial 40°

— Extra Żytnia 40° a product of the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)

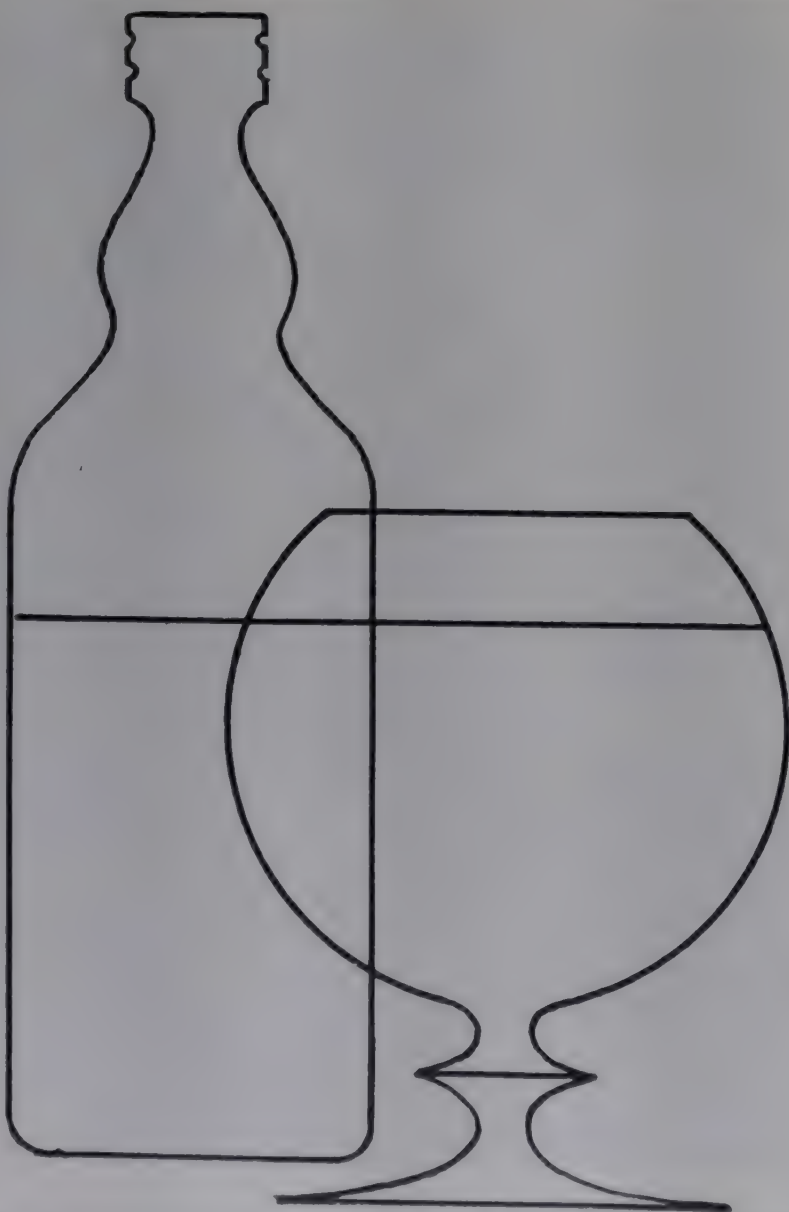
— Krupnik — Polish Honey Liqueur 40° of the Śląska Wytwórnia Wódek Gatunkowych (Silesian Quality Liquor Factory)

At the World Exhibition of Alcoholic Beverages in Brussels:

— a golden medal was awarded to Jarzębiak — Rovan Vodka 40° of the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)

— distinctions were granted to Wiśniówka — Cherry Cordial 40° and Żubrówka — Bison Brand Vodka 40° made by Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant).

At a similar event in Paris





— a golden medal was awarded to Wódka Wyborowa 45° made by Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)

— a silver medal to — Żubrówka — Bison Brand Vodka 40° from the same Plant

— a distinction — to Śliwowica Paschalna from Śląska Wytwórnia Wódek Gatunkowych (Silesian Quality Liquor Factory)..

At the "Monde Selection" International Olympics of Alcoholic Beverages Standards in Rotterdam:

— a golden medal was awarded to Jarzębiak — Rowan Vodka 40° a product of the Lubuska Wytwórnia Wódek Gatunkowych (Lubusz Quality Liquor Factory)

— silver medals went to Tatra Vodka 45° and Honey Cherry Brand 38° from the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant).

Also at the II International Exhibition of Wines, Vodkas and Liqueurs in London Polish alcoholic beverages carried off awards:

— a golden medal was obtained by Żubrówka — Bison Brand Vodka 40° from the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Spirit Industry Plant)..

# agros



# agros

## The Most Attractive Concentrate

Concentrated fruit juices are the products obtained from natural juice by removing the water content. The production of concentrated fruit juices was begun in 1960 in Poland and at present it constitutes an important line in the fruit-vegetable industry. Concentrated juices are principally used for the production of fruit beverages and also for the production of wines, fruit syrups, cooling drinks, as well as in the confectionery industry. It is a convenient and economic form for storing owing to its reduced volume and increased durability.

In Poland, principally apple juice is concentrated (about 5000 tons) and also morello cherry, blackberry and currant juices, which after concentration, are used principally for the production of beverage juices and "Nowit", solidified by means of glucose. Concentrated black currant juice, distinguished for its considerable content of vitamin C (ca 450 mg %) is a particularly attractive article.

## suggestions

We suggest the following cocktails for the next social gathering:

**Manhattan** — 25 grams rye Vodka, 25 grams Vermouth, 25 grams English bitter vodka — mix, chill.

Serve with a slice of peeled lemon, sprinkled with powdered sugar.

**Raspberry** — 25 grams of Winiak (a kind of cognac), 25 grams raspberry juice, 50 grams 9-percent sweet cream, ice.

Pour raspberry juice to sweet cream and winiak, mixing steadily.

**Orange** — 10 grams dry Vermouth, 10 grams Polish Wyborowa Vodka with the mark "Polmos", 20 grams tinned orange juice, 20 grams soda water.

Mix wine, vodka and juice, pour beverage into a glass, serve chilled soda water separately.

(F.K.)









# agros



offers: Alcoholic beverages, fruit  
and vegetable products, frozen  
food, forest crops, confectionery,  
tobacco and its products  
AGROS—Warszawa—Poland  
Żurawia 32 34







# agros

## Sweets from Poland

Products of the Polish confectionery industry for several tens of years now enjoy a deserved renown both at home and abroad. De-

licious taste, good quality and adaptation to the client's wishes place products of the Polish confectionery industry among the world's best.

Sweets form the most numerous group of sweetmeats exported by AGROS Foreign Trade Enterprise. Polish sweets are made by excellent specialists who have at their disposal laboratories in which not only the ready products are tested but also semi-finished products and raw materials. Due to constant research work synthetic dyestuffs and taste and aroma extracts are being ever more often replaced by taste, aroma and colour substances of vegetable origin.

Poland's confectionery industry finds an excellent production basis in traditionally produced in Poland raw materials of high class such as, for example, sugar, glucose, honey, improved fruit pulps, butter, cream and a number of others.

In the vast range of sweets made in Poland, everybody will easily find a sort which will be to his taste.

And here are some sweets which are especially popular with customers abroad:



1. "Krówki" (luxury cream fudge)  
a Polish speciality made from sugar, milk and fat.

2. Lollipops

Children's delight throughout the world.  
Attractive patterns of flowers and animals  
designed by hand.

3. Hard boiled sweets

Clear Mint, Frutti, Peppermint and fruit  
sweets depending on the flavour extract  
added

4. Fruit-filled sweets

Nuncas, Czarna porzeczka (Black Current),  
Mieszanka włoska (Italian Mix), Cytrynka  
(Lemons), Pomarańczki (Oranges)

5. Special sweets

Raczek (Cray Fish), Toffii (Toffee), Miodowe  
(Honey Sweets)

6. Chocolate bonbons

made in many varieties, mainly mixes, with  
fillings of marmolade or jelly consistency,  
chopped almond (nut) soft caramel, also  
semi-fluid fillings.

## Packages

### Direct wrapping

Hard boiled sweets are wrapped in colour-  
-printed or tomographed paper wrapping,  
the colours are bright, often the sweets are  
additionally wrapped in aluminium foil.

— this raises their attractiveness.

### Indirect retail-packing:

— cellophane bags, machine welded, con-  
-tents — 100—150 g (or comparative Bri-  
-tish weight units),

— polyethylene bags sealed as above or  
closed by clips,

— lithographed 8 oz, 12 oz and 1 lb tins



### Indirect wholesale- packing:

— cartons of various capacity 4—5 kg,  
7—10 lbs

— polyethylene bags of 1—3 kg or 3, 5, 7  
lbs capacity. Packages for forwarding are  
adapted to shipment by land or sea.

All information is provided  
on request by the exporter —

AGROS Foreign Trade

Enterprise, Warszawa,

Żurawia 32/34, Poland.

Phone: 21-64-21.

Cables: Agros Warszawa.

Telex: 814-391 PL.



# A walk through Warsaw then and now

*Mieczysław Polak*

In the second half of the 18th century Poland's capital Warsaw lived through a period of explosive development, though, obviously on a different scale than now, yet dynamic enough. That period coincided with the reign of Poland's last king, Stanisław August Poniatowski.

In a brief review of those bygone times, we wish to present to our readers the Warsaw of those days, and to tell them something of King Stanisław August's contribution to Warsaw's expansion, to the flourishing development of the arts and sciences, and advancement in the noble art of refined cuisine.

King Stanisław August Poniatowski was an enthusiastic sponsor of all arts: painting, music, poetry, and above all architecture. The King's interest in architecture found an emphatic expression in the reconstruction and expansion of the city of Warsaw. New town planning concepts were evolved following the royal initiative, in particular the idea of star-shaped street intersections. Several places with streets radiating in all directions, including the Unii Lubelskiej, Zbawiciela and Na Rozdrożu, were created and have survived to this day. Whole new districts of Warsaw were built. A long urban track, quite unprecedented for those times, the so-called "Ujazdowska Axis" — from the Royal Castle, through

Krakowskie Przedmieście, Nowy Świat, Aleje Ujazdowskie, as far as the Belvedere Palace — was then laid out.

The King was an ardent patron of authors, poets, artists and scientists. He dined with them once a week, and these dinners in the Royal Castle became historically famous as "Thursday Dinners". The dinners were presided over by the King in person, and played a considerable part in the so-called "Polish Enlightenment". Since we broached the subject of dinners, one should say a few words about the Warsaw cuisine in King Stanisław's time. A Livonian chronicler Francis Schultz, who lived in Poland in the period 1771—93, wrote as follows about the receptions in the palaces of the Polish aristocracy: "The Polish propensity for lavish splendor is amply reflected in these receptions: several rooms are filled with tables which literally groan under the weight of food. Food of all kinds is abundant: Hungarian, French, Spanish and German wines which elsewhere are but sipped, here are imbibed in copious quantities. Vodka is served in huge glasses. Lemonade, orangeade and other beverages are poured from immense flagons, of a kind that beer is served in elsewhere. Coffee and tea is served in large kettles of solid silver ... veritable mountains of confitures, fruits and toasts are circulated round





the rooms on huge plates all continuously ..."

Inns and eating places "which feed you well but make you pay well, too" were springing-up everywhere. There was, for instance, Mr. Quellus' excellent restaurant

in the Old-City Square, where "the chef gives dainty dishes in exquisite dressings and sauces, and keeps his table in such style as great lords have theirs".

The first "coffee house" in Warsaw was M. Meyerhoffer's. Café

at the back of the "Iron Gates", founded in 1724. Cafés soon became fashionable, and began to take customers away from wine cellars and eating houses.

The people of Warsaw liked to eat well in those days. Apart from





the elegant and exclusive restaurants, there were many on a more modest scale, serving popular Polish dishes of bigos, tripe, etc.

Warsaw cafés have always been inseparably connected with the city's history. After World War II they were springing up like mushrooms after rain: where else could then Warsaw authors write, friends meet, lovers flirt and others just rest, when in the initial years after the war people had no privacy at home? Although now the housing situation has much improved, the cafés still remain the favourite meeting places, and have got into the Warsaw people's blood.

It is to the old city cafés and restaurants that we primarily invite foreign tourists. They will find there food and drink as good as in central Warsaw, but in a quaint, old-city scenery.

We invite them to a luncheon in the restaurant "Pod Bazyliżkiem" on the Old-City Square, and in the evening to dinner and dancing in "Krokodyl", in the cellars of an Old-City house. In candle-light, amidst mediaeval decor, they will be served, in addition to elegant European dishes, traditional Polish food.

For those who like to stay up late, we suggest strong coffee to regain composure in the "Krokodyl" Café on the floor above. They will be served by waitresses in mediaeval Warsaw burgher's dress in period decor.

In an afternoon walk, we advise them not to miss the café "Kamienne Schodki", also in the Old City. There, in dim light, one may pleasantly relax, or dine by candle light of roast duck and claret.

Afterwards our guests will probably agree that certain customs and ways dating back from those "golden days", and particularly the tradition of good eating, have survived in Poland to this day.

There used to be a saying in Poland "Eat, drink and be merry under a Saxon king". Does it still apply? Find out for yourself. Warsaw invites you.

Warsaw came out of the Second World War demolished in 87%.

Seven hundred eighty-two out of 987 historical buildings were ravaged by war. The majority of them were faithfully rebuilt with great care. But these are sad echoes of past years. Today Warsaw is going through a period of an all-round heyday, so intensive as never before.

# W a r s z a w a

The long-range plans for the building up and rebuilding of Warsaw reach 1985. The building up of the Warsaw central district, especially the Victory Square, the region of Jerozolimskie Avenue and Marszałkowska Street, will be ended during this period. Here will be the modern central railway terminal, the city airline terminal and five big hotels. The long-range plan also provides for the building of further thoroughfares for rapid municipal traffic with a collisionless crossing of two levels and a new bridge over the Vistula. Warsaw will also get a picturesque boulevard at two levels along the Vistula. Their building is already begun.

Moreover, Warsaw will become richer in the proximate years in two remarkable buildings: a monumental complex of buildings for the National Library and the Royal Castle.

All these buildings, the designs for which have been approved of architectonic competitions and published in the press are followed very attentively by the Varsovians and commented on with great interest, just as all others so far.

The designs for the reconstruction of the Royal Castle, however, engage the warmest interest. The castle dates back to the 13th century and has been rebuilt several times over the centuries. It constitutes a magnificent architectonic historical monument of Warsaw, and, having been the seat of Polish kings

and then of presidents — a symbol of Polish statehood. The Warsaw Castle was not only the residence of princes and kings, it was also a place of important historical events, a witness of days of glory and defeat of the Republic of Poland. It had been a center for political and cultural life for 300 years. The Diets were held here since the 16th century. Here the Polish kings received foreign envoys, and victorious commanders laid the banners won in battle at the feet of the throne. Here plans for all great social reforms were begot. The Commission for National Education also arose and as the first world's Ministry of Education officiated here. Adam Naruszewicz wrote the History of Poland in the royal library and the famous Italian painter — Bacciarelli conducted the first painting school in Poland. And finally the idea was born here to open the first public school in Warsaw. Here also convened the stormy sessions of the Four-Year Sejm which ended with the passing on May 3rd, 1771 of the first constitution in Europe and the second in the world containing broad social reforms. Here also the partitioning diet was held, commemorated by the pronouncement of the great Pole — Tadeusz Reytan.

Later came the century of defeat and slavery. And not until 1918 did the white and red flag flutter again on the castle tower. The former splendor returned to the Warsaw Castle which again became the seat of the Head of the State. The valuable works of art





# in Perspektive

and historical relics — witnesses of the history of Poland — returned to the beautiful rooms, remembering the times of Stanislaw Augustus.

Hence, the Castle had been a witness of our history, a symbol of the continuity and the permanence of our culture.

It was burned and razed to the ground, just like many others historical monuments, by special Nazi detachments of the Vernichtungskommando at Hitler's personal order, but the decision has finally been taken to rebuild it once more.

It will be financed not only by the people of Warsaw and of the entire country, but also by Polish organizations abroad, which are already sending gifts of money and warm words of support for the intended work.

Gifts of money from people throughout the entire country are continually flowing in addressed to the Civic Committee for the Reconstruction of the Castle. Valuable objects and furniture for the furnishing of the historical interiors, which had been saved from the ravages of war and kept with great piety are also being turned over.

Reconstruction will begin within two to three years. Warsaw will undoubtedly receive her dearest memento in 1980 and the Castle Square — its greatest ornament.

## Warszawa against the Background of the Worlds Large Cities

*H. Łapczyńska*

Recently a book appeared with this title, in which the author compares Warsaw, the capital of Poland, with other large world metropolises. It follows from the data contained in this publication that the number of the population of Warsaw, which already amounts to over 1,300,000 inhabitants, places it in the average group of 120 cities with a population over a million. The largest cities of the world are: Tokio (over 9 million inhabitants), New York (over 8 million) and then Chicago, Shanghai, Moscow, Peking (from 6—7 million inhabitants). Vienna, Bucarest and Kiev, Naples and Prague, numbering 1—1.7 million inhabitants, approach Warsaw as regards the number of population. About 4% of the entire population of Poland live in Warsaw. The administrative boundaries of Warsaw cover an area of 445 sq km. Hence, about 2900 inhabitants fall to 1 sq km. Thus Warsaw is not so crowded as compared with

other large metropolises; for inst. huge Tokio embraces an area of 570 sq km, New York — 828 sq km, and Prague only 180 sq km.

In spite of the fact that the present birth rate of the capital city is recorded as being the lowest in relation to other large cities, housing difficulties have already become proverbial. Statistics say however, that Warsaw in this respect is among such cities as London, Budapest, Prague, Amsterdam and Helsinki where they have, just as Warsaw, about 3—4 persons on the average per 1 flat.

Statistics say that among the cities with over a million inhabitants more is being built in Warsaw — counting on the average per every thousand persons — than in Tokio, New York, London, Mexico City, Budapest and Bucarest. True, the standard of the newly built flats is rather low so far as their surface area is concerned. Small or medium-sized rooms are built, but the standard of the equipment of the flats is on the whole considerably higher than before the war, and better than in some capital cities of other countries. For the vast majority of the accommodations is supplied with warm water, gas and central heating. The large spaces in the building up of streets and squares (the surface area of squares increased almost twice as compared with 1939), the location of industry in the separate suburban districts, and also the introduction of a modern heating system of the city by thermal plants from its outskirts have caused that Warsaw is much less contaminated by smoke, gases and other fumes of big cities than other crowded world metropolises.

The Varsovians travel more packed than inhabitants of other capital cities, which issues from the greater numbers than elsewhere commuting by municipal communication means (there are relatively few private cars).

Thus appears Warsaw, the capital city of Poland, in a general outline against the background of other large world cities.



# OKOCIM





# OKOCIM Brewery: Tradition and Modernity

In 1845, i.e. 125 years ago, a brewery was built at Okocim, a village in the Carpathian foothills. Even then there were many breweries on the Polish lands. But the Okocim brewery, in accordance with the founders' intentions, was destined to be among the foremost. This was to be obtained through diligent production methods and top quality beer.

The progress of this Brewery from the day of its opening to the present times is notable for continuous development and modernization, while the volume of output, initially 5,000 hectolitres annually, now exceeds 700,000 hectolitres of beer.

The Okocim Brewery is now a multi-factory plant, and its production of beer and malt has spread its fame over many countries on our continent. Okocim has departments engaged in both principal and auxiliary production. It comprises a large malt-house with a modern silo, brewery, factory of baking yeast and lining mass, beer barrel factory and repair workshops. We will begin a brief review of the development of the Okocim Brewery with the malt-house, which is in fact a combine of three malt-houses. These are: the so-called barn-floor house, Topff's storage, and the Saladin-Muger-type malt-house, the most modern plant in the works, operating eight roast crates and Muger-type dump-drier. The malt-house is connected with a 40-chamber silo by means of a mechanical and pneumatic transport system. An operational tower adjoining the silo is fitted with machinery for grain transport, cleaning apparatus and weighing scales. Particularly worthy of note in the brewery plants is the brewhouse where hops' wort is brewed in large copper cauldrons.

There are two brewhouses in the Okocim Brewery with a joint monthly output of 65,000 hectolitres of brew. From brewhouses the wort, cooled down to 6° C., is drained

to cellars where fermentation takes place. Closed fermentation vats have a total capacity of about 30,000 hectolitres of wort. On completion of fermentation and removal of excess of yeast by means of special centrifuges, the beer is conducted for cold storage in cellars to mature. In modern steel and aluminium tanks with a total capacity of 120,000 hectolitres the beer matures in a closely controlled temperature, acquiring clarity, flavour, taste and saturation with CO<sub>2</sub>.

The beer, matured under optimal conditions, is then filtered and conducted to distribution plants, where it is put in barrels and bottles. An automatic bottling plant, comprising bottle washers, pourers, cappers, tunnel pasteurizers and labellers, has an annual output capacity of over 35 million bottles. Okocim beer, with "Koziolek" ("Kid") trade-mark, has six brands: light, full, crystal, porter, ordinary and export.

All these brands of beer are very popular with the general public.

The invariably high quality of beer is safeguarded by a modernly equipped laboratory in the Okocim Brewery.

An indication of the high quality of beer is the fact that four of the above brands have been awarded the Polish "1" quality mark, while the export beer the international "Q" mark. Apart from the technique and technology of production, the quality of beer is largely due to the skills of its makers. They are experts who have learned beer-making not only in secondary and higher schools. It so happens that at Okocim the brewer's profession passes from one generation to another. Without an undue arithmetic effort we find that the fourth generation is now employed there.

For them the art of beer-making had been the subject of talks and arguments at home. Production secrets had been passed from mouth to mouth, and had been followed in production practice for generations. At present, this art is supplemented by science. Descendants of the former brewery workmen receive education in technical schools and universities. Their knowledge helps them to improve production, and to utilize in full up-to-date techniques used in modern breweries. That is why it is not surprising that the Okocim beer is popular with consumers at home and abroad. Good knowledge of production, skill and tradition guarantee the high quality and stability of this beer.

Thanks to development and modernization, the Okocim Beer and Malt Works are capable of boosting the output of export beer with "Q" quality mark.

Thanks to expanded production, Okocim may also offer larger quantities of beer to foreign buyers.

The Okocim beer is exported by the "Agros" Foreign Trade Enterprise, while Okocim-made malt is exported by "Rolimpex".

In matters connected with purchases of products bearing the "Koziolek" trade-mark, please contact the above-named Polish exporters.

J.K.



**N**ever in the history of our country has the marine economy had such splendid conditions for development as during the past twenty-five years. Paralelly with the development of the merchant fleet expanded also the fishing fleet. Due to the constant introduction into exploitation of new, ever more modern, fishing vessels — mother ship-factories, factory trawlers and refrigerated trawlers — the range of activities of our fisheries and processing possibilities has been widened and, what follows, also the assortment offered by the individual fishing enterprises.

Polish fishing vessels, the property of the three largest Polish fishing enterprises — DALMOR based at Gdynia, ODRA of Swinoujście and GRYF of Szczecin, have put out to sea on their way to the fishing grounds of the seas and oceans the world over.

The fish caught — a great variety of fish — are delivered by refrigerated vessels to the home market and for export.

Exports are dictated mainly by the necessity of partly satisfying vital import requirements — particularly fish meal. On an average the share of exports in the total catch amounts to 20 per cent. This means that every fifth ton of fish caught finds itself on tables abroad. In January 1971 twenty-five years elapsed since the day of the setting up of the first Polish Przedsiębiorstwo Połowów Dalekomorskich "Dalmor" (DALMOR Deep-Sea Fishing Enterprise) at Gdynia. DALMOR is not only the oldest, but also the largest fishing enterprise in Poland. It is also the main supplier of fish and fish products exported from Poland by the sole exporter of fish — RYBEX Foreign Trade Office of Fisheries Central Board (address of RYBEX Office — Szczecin, Odrowąza 1, Poland—.

On the subject of the activities of DALMOR we obtained an interview with Director Jerzy Latanowicz, head of the Production Department.

— In 1946 DALMOR's flotilla consisted only of six trawlers of an old type. Systematical efforts to increase and modernize the Polish fishing fleet gave from year to year ever better results. Polish shipyards undertook the building of modern units of various size destined for deep-sea fishing, including among other vessels large ship-factories fitted out with equipment for the refrigeration and processing of fish caught. And thus for example:

Factory trawlers type B-15 built by the Shipyard of Gdansk, are today fitted out with ship's main engines of 2,400 h.p., refrigerated holds, deep freezer rooms, equipment for the automatic filleting of fish, fish meal plants and cod-liver oil plants. Every type B-22 factory trawler has three production lines for the automatic processing of fish (fillets) and an up-to-date deep freezer system (deep freezer cabinets).



## Twenty Five Years of DALMOR

In 1966, namely 20 years after the setting up of our enterprise, the DALMOR flotilla numbered 51 fishing cutters, 31 side trawlers and 17 factory trawlers. The number of DALMOR fishing units is constantly growing. Also their tonnage and degree of modernization is increasing.

With the quantitative and qualitative rise of the fleet the range of deep-sea fishing changed.



In 1946 DALMOR's trawlers fished only in the Baltic and North Sea. The first Polish ocean-going industrial trawler was put into exploitation in 1960. In recognition of DALMOR's merits in the development advancement of deep-sea fisheries this type of trawlers has been named "Dalmor". Today DALMOR's trawlers cover by their range the vast spaces of the Atlantic Ocean from the fishing grounds off the coast of Angola up to the waters off the shores of East Greenland.

Ages old marine traditions and clearly defined plans for the development of our fishing fleet have permitted Polish fisheries to sail out of the waters of the Bay of Gdańsk to the vast waters of the Atlantic. This feat was first done by the men and ships of DALMOR. In 1946, the first year of our activities, DALMOR's ship caught 1,143 tons of fish. The enlarged fleet caught, for example in 1965, 104,000 tons of fish.

Among the most frequently caught fish are "white" fish species such as: cod, Norway haddock, hake, flatfish, such as white and blue halibut, Pleuronectidae family fish, "purple-fish", dab and other fish like herrings, mackerel, etc.

It is probably worth recalling here that sea fish, due to the distinct character of the habitat in which they live, contain considerable quantities of components which are not present, or are present in much smaller amounts, in the meat of animals living on land. This concerns mainly mineral compounds, as well as vitamins, particularly vitamins A and D. The caloric value of fish meat matches the caloric values of other meats. The high content of iodine in fish meat is undoubtedly an interesting detail. Iodine is of specific dietetic value, especially for elderly people.

The value of fish meat is raised by its iron- and potassium content.

But let us return to our catches. A considerable part of the above mentioned fish RYBEX sells directly from ship's side in the form of frozen round fish, carcasses and fillets. The remainder is put on the home market in the form of improved raw material or is earmarked for production of preserves, some of which are also exported.

(F. K.)

To end this interview I wish to recall that the sole exporter of sea and fresh water fish from Poland is RYBEX of Szczecin, Odrowąża 1.

To the distant fishing grounds which are at several points of the Atlantic and North Sea, it is closest from the Szczecin Coast. It therefore today supplies to the home market and for export about 40 per cent of the sea fish. Here operate vast fishing-processing combines: the "Odra" at Swinoujście and "Gryf" in Szczecin and several fishing cooperatives fishing in coastal waters, among which "Belona" of Dziwnów is becoming outstanding. Several years ago it was rightly recognized that it is Szczecin that should be the managing centre of our entire fisheries. Probably no other domain of economic life in our country may boast of such a rapid and steady growth as fisheries. In 1950 deep sea fishing accounted in Poland for 66,000 tons. After ten years the figure amounted to 186,000 tons. Lastly for the present year 417,000 tons have been planned. This last figure obviously does not define the end of our possibilities. According to FAO experts in the seas and oceans of the world catches may amount to 100—120 million tons of fish. Everything seems to indicate that this level will be attained during the years 1980—85. It is our ambition — by no means extravagant — to participate at that time in world fishing to the modest amount of one per cent.

This is not a simple task, as one has to seek fish ever further away. The closest Baltic fishing grounds may, perspective, yield no more than 70,000 — 100,000 tons of fish, as the total possibilities of catches in that small sea amount to about 500,000 tons. The English Channel and North Sea, where our fishermen won their experience in deep sea fishing, have also lost their former productivity. At present the majority of the fishing fleet seeks shoals of fish on the Georges Bank fishing ground as well as off the coast of Labrador and off the coasts of Africa. In the meantime the sea fish from the "snack" family, namely the herring, is ever growing more scarce on the traditional fishing grounds and its share in the total catch balance will probably systematically decrease. Fishermen are seriously thinking of fishing a substitute for

the herring, namely of substituting this fish by another one with similar virtues. The "Gryf" enterprise is for example experimenting in fishing and salting sardines. Salting of fish on board of ships is anyway, losing popularity. Of our fishing enterprises only "Gryf" is to receive during the next few years several up-to-date herring-trawlers, destined for fishing herrings and their traditional preservation in barrels. Modern refrigerated trawlers, factory trawlers, their auxiliary vessels and liaison units land deep-frozen fish, fillets and carcasses, as well as fish meal and oil.

The modernization of the fleet not only influenced changes in the assortment of fish traded but also extended the cruises. Only five years ago fishing cruises lasted 2—3 months. Today our ships put out to sea for six or more months. Work in fisheries is less risky than it was in the past but it is connected with a tedious separation from land.

The fisheries economy development programme up to 1985 stipulates that of the total outlays for this branch 66 per cent will be absorbed by the fleet and the remainder, namely 34 per cent, by the background on land. A part of these investments in fisheries on land will be located in the province of Szczecin. Among them will be, for example, a large refrigerating plant for the "Gryf" fishing enterprise. In the next five years considerable sums for the purchase of up-to-date vehicles will be allotted to the head office attached to the Union of Fishery Economy which is also in Szczecin, and which manages the road transport of fish throughout the country. Obviously, these are but a few examples of undertakings as a result of which sea fish caught in the Atlantic and Baltic by our fishing fleet will find their way to the table of truly many families in various countries of the world.

M. S.







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By binding import with export DAL as multi-branch and general co-ordinator in Poland facilitates its partners to sell their products to Poland as well as secures deliveries of goods to be balanced. DAL is in charge of straight transactions in the name of producers, importers and exporters and is offering its services in this line.

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# SUNDRIES

## Testing of Beer

Not all judges of beer who praise the virtues of "Biskupieckie Pelne" (Biskupiec Full Strength) know that at the Biskupiec Brewery operates the Research Centre of the Institute of the Fermentative Industry of Warszawa. The Centre primarily carries out analyses of beer (sent in from the country's various breweries) to obtain the quality mark, as well as research in the line of the technology of beer production.

The Centre at Biskupiec is often visited by visitors from abroad.

Recently it was visited by representatives of a similar institute in Moscow and earlier by representatives of the French firm Rapidase.

\* \* \*

Do you know that the composition and quantity of food depends on age, mode of life and kind of occupation? It will, therefore, be no overstatement if there must be something different for each one. And thus, for instance, a man lying in bed quietly, needs only about 1800 calories in all during the day. One who is very active needs 2100 calories, and one who leads a very active life must have 2500 calories.

Children up to a year need 700 calories, of 1—2 years of age already 900 calories. From 2—3 years 1100 calories. Older children, 4—5 years of age — 1400 calories. From 5—6 years 1500 calories, and from 7—8 years 1800 calories.

Boys of 9—10 years need 2000 calories, and girls — 1900 cal. Boys of 11—12 years of age — 2200 and girls — 2100 cal. This difference is maintained with years. Boys of 12—13 years of age need 2300, and girls — 2200 calories. Boys of 15—16 years of age must be supplied with 2600 calories and girls with 2300, while at the age of 19—20 boys must get 2800 and girls 2400 calories.

So far as adults are concerned, the so-called sedentary jobs (brain-work), mer-

chants, white-collar workers) need from 2200—2400 cal.

Physical sedentary work (tailors, precision mechanics, typesetters, teachers, housekeepers, etc) from 2500 to 2800 cal. Moderate physical work (shoemakers, bookbinders, postman, laboratory workers, doctors) — require the consumption of 3000 calories. Heavier physical workers (tool makers, carpenters, painters, soldiers) consume 3400 to 3600 calories. Heavy physical workers (porters at railway stations, sportsmen 4000 calories each and even more.

Extremely heavy physical work, such as performed by miners, farmers, lumbermen, etc. requires 5,000 and over calories.

\* \* \*

Note that when counting the value of the food, not only their caloric value (that is the calories they provide the human organism with, is taken into consideration, but also how much proteins, fats and carbohydrates the food contains.

In 1970 world catches of edible fish amounted to more than 63 million tons of which about 8,000,000 tons were fresh-water fish. These catches were more than 2 per cent lower than the catches in 1966. Only African and Asian countries did not note a drop in deep-sea fishing. The first three places in world fishery are held by Peru, Japan and the Soviet Union. Poland holds ninth place among European countries.

\* \* \*

Already 3500 years ago honey was used by Egyptians in treatment of wounds. Hippocrates in the fifth century B.C. prescribed for the sick prescriptions for medicines which contained honey. In the Middle Ages honey became a cure-all for all sicknesses.

In recent years honey is starting again to work its way up. Partisans of the "elixir of life and youth" set great hopes on it.

\* \* \*

During his lifetime (let's take as an average 70 years) man consumes about 100 tons of food, i.e. 1250 times more than the

weight of his body. Only one per cent cent of the food consumed by man are products derived from "water", namely are found in water reservoirs which in turn cover 75 per cent of the Earth's total area.

## Inhabitans of Milan Drink Milk from Szczekocin

With effect from February 1 of this year, four times per week a huge tank-truck leaves the Dairy Cooperative at Szczekocin for Milan with 25,000 litres of milk.

The cooperative dairy industry has signed an advantageous contract with a firm in Milan for the export of consumer milk to Italy.

In addition to the Dairy at Łazy (Province of Łódź) this milk is prepared for the Italian customer by one of the largest dairies of the Province of Kielce — at Szczekocin (district of Włoszczowa) — which runs a dairy-farm with rich pastures.

## Poultry Sausage

The Main Laboratory of the Egg-and-Poultry Industry has recently elaborated a recipe for a new kind of a smoked product of poultry meat — a so-called "Kielbasa Obornicka" (Sausage from Oborniki) the production of which has been started in a plant at Oborniki.

The basic raw material for this sausage is meat carved out from the breasts and thighs of geese. (J.K.)

## Floating Cafés

The river shipyard at Dobrzyn Wielki is the sole builder in Poland of floating cafes. In 1961 the first café of this type — the "Arizona" — destined for the Park of Culture and Rest at Chorzów left the dock.



At present at Dobrzyn a second, consecutive floating café is under construction for the same customer. This unit was conceived in the Biuro Projektów i Studiów Taboru Rzecznego (Design and Studies Office of River Craft) in Wrocław.

The café will consist of 72 hexagonal floats which may be linked at will (in the fashion of a wax honeycomb). The thus formed platform, which is linked with the land by a gungway, will be outfitted with 50 tables, a bar, dance floor and other special facilities. The entire café is sheltered by plastic umbrellas.

The sectional construction makes possible the changing of the shape of the café's surface, let's say, every season. The café will accommodate 500 persons.

## About Warszawa

In terms of inhabitants Warszawa holds fourth place among the capitals of European socialist countries — next to Moscow, Budapest and Bucharest and precedes the capitals of the German Democratic Republic, Czechoslovakia and Bulgaria. Varsovians live six times less congested than people in Paris and two and a half time less than in Moscow and thus in Warszawa there are 2,880 inhabitants per 1 sq.km, in Budapest 3,713 inhabitants, in Prague — 5,548, in Moscow — 7,245 and in Sofia — 7,475

\* \* \*

Among socialist countries Warszawa has the highest percentage of children — 24.6 per cent, its every fourth inhabitant has not passed the age of 14 and every twentieth is between 15 and 19 years-old. In 1967 in Warszawa's primary schools there was the largest number of children (177,000) of all capitals of socialist countries (with the exception of Moscow).

\* \* \*

Varsovians stand a better chance of getting married than unmarried women in other capitals; in Warszawa there are 115 women to 100 men; in the capital of the German Democratic Republic —

almost 126, in Vienna as many as 130. Fewer women than men are noted in far-away Buenos-Aires and Tokyo. In Stamboul, on the other hand, where at one time every Turk could have several wives, today for every 100 men there are 85 women.

## Specialists for Agriculture

The Agricultural High School in Szczecin educates at three faculties — Agricultural, Deep-Sea Fishery and Zootechnical — 2,450 students of whom 1,600 are intramural students, 322 obtained engineer's diploma's and 1392 their B.A. degree. Doctor's diplomas were won by 115 students. Fifteen workers of the Agricultural High School have qualified as assistant professors. At present the scientific staff of the Agricultural High School consists of 53 professors and assistant professors and 154 auxiliary scientific workers.

## The Rank of Polish Statistics

In recent years Polish statistics has won itself a good name in the world.

The achievements of Polish statistics were presented in October 1969 at an international conference organised by the United Nations in Lund in Sweden.

It should be stressed that Polish statistical year-books and some other publications in this line are recognized on the international forum as among the best.

In 1968 Poland was unanimously elected to the United Nations Statistics Commission. This is a particular privilege as it offers the possibility of participation in the work of the most qualified international organisation of statisticians to which — of all the U.N. members — but 24 countries belong.

\* \* \*

The earth can feed 90 milliards of population under the condition that 35 quintals average harvest per hectare can be attained on an area of 7 milliard hectares arable land.

\* \* \*

Only somewhat less than a millird and a half hectares of land is cultivated in the world.

\* \* \*

If the earth is to feed all the people, then up to 1980 the production of grains must be increased by 45 %, vegetables by 95 %, meat and dairy produce by 85 %.

\* \* \*

A quantity of grain sufficient to feed 300 million population was spoiled just in 1959 in the world grain elevators.

\* \* \*

One aircraft carrier of nuclear drive costs 2,750 thousand tons, of wheat, one bombing atom-driven plane — 100 thousand tons of sugar, one submarine with rocket missiles — 55 tons of meat.

The meat "Wawel", made in Milejów, is very popular among foreign clients. Thirty thousand liters of the drink were sent to England, Australia, Canada, Sweden and other countries. In order to conform to the wishes of foreign buyers, Milejów is increasing the production of wine in small packings.

The Foreign Trade Enterprise "Agros" is the exporter of mead from Milejów.

## Vitamin candies

Not everyone knows that the Łódź conquerers of the peak of the Hindukusz Mountain in distant Afghanistan during their mountain climbing fed on candy which the Polish candy factory "Optima" made for them according to a special recipe. This candy contained a considerable quantity of vitamin "C". The Alpinists jokingly said that after having consumed such a vitamized "round", they climbed up the mountain at a livelier pace.





Superintendence of goods is a specialistic and professional field of service, indispensable for normal functioning of foreign trade, in particular the seaborne one.

The term covers various services whereof the following are the important ones:

- inspection of quality
- checking the conditions of the goods
- checkweighing with the view to ascertaining the quantity and weight of the goods
- checking the condition of packing
- survey of storage conditions, suitability of transport facilities and supervision of stowage
- sampling
- laboratory analyses of samples.

**POLCARGO** — as a superintendence company, among other things, to a considerable extent inspects the goods of vegetable and animal origin exported from Poland i.e. cattle as well as saddle, slaughter and draught horses. The characteristic activities of **POLCARGO** in connection with export of Polish horses and bulls, as described below, fully justify the necessity of superintendence in the complicated process of trade in live animals.

As to Polish exports of utility bull — calves the procedure of superintendence is as follows:

- selection of bull — calves by inspectors at breeding farms and qualifying of same for quarantine bases,
- quality assessment of bull — calves as per contractual provisions following the quarantine and vaccination period,
- weighing of each head,
- supervision of watering and feeding of bull-calves after their weighing and prior to loading,
- completion of railway wagons loads for the clients involved.



- supervision of loading into wagons,
- supervising an adequate fodder supply of the animals during transport in Poland and abroad,
- issuing of inspection certificates,
- ascertainment of quality and number of the animals as well as the outfit of the wagons concerned before crossing the Polish border,
- advising clients according to their wishes about the consignments.

As regards the export of saddle and draught horses this procedure is as follows:

- selection of horses at round-ups or quality qualification at collective bases — according to contractual stipulations,
- weighing of each horse,
- supervision of watering and feeding of horses following their weighing prior to loading into railway wagons,
- completion of railway wagon loads for the resp. clients,
- marking the selected and examined horses and attaching to them scaled leather tags to prove their identity,
- issuing of inspection certificates and if need be advising of clients abroad about the consignments.

— supervision of loading into wagons and supervising proper supply of fodder for the duration of transport in Poland and abroad,

— checking of number of the animals and of the condition of outfit of the resp. wagons at the frontier station on the day of crossing the border. Here, it should not escape anybody's notice that the above services will be the more highly appreciated by importers if they take into account the relatively advantageous fees, apart from the considerable advantages they thus avail themselves of. Besides the impartial assessment of the quality and condition of the goods they purchased, clients acquire also detailed information on the circumstances of loading such as: the number of the animals in the consignment, loading station and date of loading and of crossing the Polish border, specialfication, etc. That is why it is really advisable to avail oneself of the **Polcargó's** services.

**Please address all inquiries to :**

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— Poland**

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# FOOD

*from Poland*

Review of Exports of Agricultural Products and Foodstuffs

No 4(41)





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### On the Cover page.

„Jewish women selling fruit”

Painting by Aleksander Gierymski

Aleksander Gierymski was born in Warszawa in 1850 and died in Rome in 1901. His brother Maksymilian was also a painter. During the years 1868—1872 he studied in Munich, where he underwent all the stages of various academic teaching. His teachers were Hermann Anschütz and K. von Piloty.

As an accomplished painter he followed a road close to realism. Towards the end of 1873 and throughout the next year he painted in Rome and among other paintings painted two topical paintings entitled „A game of moro” and „An inn in Rome”. These two pictures were exhibited for the first time in Warszawa in 1875. They brought him great success.

Gierymski's paintings were most closely related with the Warszawa milieu. During that period he painted: „Jewish woman selling fruit”, „Portical in the Old City”, „Landing-place at Solec”, „Powiśle” and many other paintings. But the main subject of his paintings was Warszawa itself.

The fresh, sunny, brilliant with the purest colours views of Verona and Rome, which Gierymski painted shortly before his death, are his true testament. It may be said that Gierymski paved the way for the modern colouristic and luminescent trend in Polish painting.



## Poland's place in Europe

"Poland among European countries 1950—1970", a publication issued in 1971 by the Chief Census Bureau (Główny Urząd Statystyczny) presents a number of interesting comparisons on the background of other European countries concerning the social and economic development of Poland during the past 20 years. Poland as far as area and population is concerned holds seventh place in Europe. Among the 23 big and small European countries as regards increase of the population Poland holds eighth place. This position is primarily due to a small number of deaths. As far as the number of births is concerned Poland is placed 15-th. It is worthy of note that in the group of the population more than 55 years-old the index for deaths in Poland is lower than in any other country in Europe. Of other demographical data in the said publication we may learn that for every 100 newly contracted in Poland marriages there are 12 divorces. This places the country 11-th in Europe. The first place on this table is held by the Soviet Union. Divorces are rarest in Greece, Rumania and in the Netherlands. Poland holds a leading place in Europe not only as, for example, the second biggest producer of zinc ores, third producer of copper and elemental sulphur, but also in the production of such products of the processing industry as metal-working machine tools, lorries and passenger coaches. Also in these production branches Poland holds 4th to 7th places in Europe. As far as agricultural produces are concerned Poland, for example, produces half of the European production (without the USSR) of rye, 30 per cent of potatoes, 30 per cent of rapeseed, 17 per cent of oats and 24 per cent of strawberries. In the production of articles of animal origin Poland holds places 4th to 7th (meat, milk, butter, eggs). Crops of the more important agricultural products are lower in our country than in the majority of European countries.

From the Chief Census Bureau's publication it appears that Poland is in Europe a power in railway transport. But in road haulage — in terms of ton-kilometers — we participate only in 12 per cent.

Per 10,000 of the population 99 students study at universities and colleges. This is a figure twice higher than that for a number of countries of Europe and is higher than the number of students in the German Democratic Republic, the German Federal Republic, Norway and in Great Britain. The Chief Census Bureau has calculated that in comparison with inhabitants of other European countries the average Pole comparatively rarely goes to a cinema. Finally we learn from this publication that during the past few years the annual rate of growth of the national income of Europe amounted to 6 per cent and that during the same time the national income of Poland increased on an average by 6.2 per cent.



# ANIMEX

## AGRICULTURAL POLICY—AN IMPORTANT TARGET

*Andrzej Zalewski*

**T**here is no doubt whatsoever, and it has been confirmed by world-known specialists, that Poland has great possibilities for exporting agricultural and food products. The possibilities are rather potential, in great measure not yet exploited, but the 1971 events indicate clearly, that the undertaken economic decisions will promptly bring about a rise of the volume and value of exports of Polish agricultural and food products both in 1972 and in the following years.

Genuine possibilities for the extension of food production for export purposes result from the special regions of intensive farming and forest-administration created in Poland, where the construction of industrial buildings or taking over of soil for purposes other than agriculture will be restrained, whereas industrial plants processing only agricultural raw material from the nearest neighbourhood will be erected. These regions have particularly advantageous conditions for the development of agricultural production — excellent soil, propitious climatic conditions and also advantageous market connections and

arrangements for agrobusiness. There are farms in these regions run by highly qualified farmers with experience transmitted by three generations. The organizing of these regions will also enable to protect the local natural environment against the harmful influence of industry on the vegetation. The purity of rivers and lakes will also be maintained and ensured in these regions, as this is particularly important for the quality of raw material both of vegetal and animal provenience.


These are decisions of great importance which have been taken by the Sejm in 1971. One can also clearly see their effect on the volume and quality of agricultural and food products exports from Poland which occupies, in the field of agricultural production, a leading place among European countries. Poland, for instance, was and still is the second country in the world in rye production, and also the second country in Europe, next to the German Federal Republic, in pork production.

Just these two examples of products — of primary significance in the agricultural production range — indicate the existing agricultural

production proportions, as well as the likelihood of their augmentation, particularly as the four-year plan, adapted in 1971, forecasts a growing rate in animal production in Poland, hitherto unknown in the history of this country, and this should guarantee a rapid rise of the meat consumption of the country. The plan assumes also to take advantage of products of animal origin as an element stimulating our trade with many countries in the world, and in particular with Great Britain, with the European Common Market countries, the USA, Japan, Canada and Australia.

It should be emphasized that in 1970, more than 74 per cent of the exported products of agricultural origin went to West European countries, more than one third of the exports has been placed at the same time in the EEC countries, above all in Italy and the German Federal Republic. After all, the maintenance of the meat export level in the same direction indicates that Poland is anxious to provide for the continuity of deliveries, regardless of the situation on the home market. These facts place Poland in the ranks of the most important trade partners in





the agricultural and food products export line.

Further observation of world-known specialists is worthy of notice: food was the decisive part in exports of Polish agricultural and food products in 1970 which attained nearly 12 per cent of the total exports of agricultural and food products. Meat and preserves form **almost one half** of the exported food products. At the same time, the part of livestock in this export grows decidedly. It concerns mainly store cattle and horses both slaughter and sportive. There is no doubt whatsoever that there exists a growing interest in the purchase of Polish store cattle. Italy, after more than ten years of trade contacts with Poland in this line, is a significant example of durable association with Polish agriculture. Fourteen Italian firms import store cattle from Poland and the majority of the firms erected special stock-farms where young Polish cattle is domesticated and fattened. The SCI-Cittadella firm may serve as an example. It has just finished erecting a modern pig farm for 1,500 heads. The next characteristic example is provided by the "Fratelli Rendo" firm in

Sicily, near Catania, which invested 1 milliard Italian liras in stock-farm buildings and installations. The farm is looking forward to good prospects on livestock deliveries from Poland.

The outlook for this export from Poland is encouraging, indeed. In two large zones, the seaside and the foothills, cattle breeding develops under soil and climatic conditions unusual in Europe. Here natural pasturages and meadows prevail almost entirely free of the noxious impact of fertilizers and insecticides. Livestock bred here, has been lately brought on a par; its quality has noticeably changed for the better, and from now on it is already competitive with French store cattle.

The current agricultural policy also points to a speedy growth of pig breeding. An analysis of livestock purchases in the range of animal production distinctly leads to conclusions that there is a steady revival. The pig purchases in the 4th quarter of 1971 will again attain the volume typical for the years of prosperity. The relatively high interest of farmers in pig breeding shows that the changes in pur-

chasing conditions, undertaken at the beginning of 1971, yield expected results. Pig production ought to rise quickly now. This will also be favoured by the general assumption of the entire agricultural policy, which develops the imports of fodder grain and concentrated feeding stuff to Poland, and their volume will be established according to proportions of animal production and also to the annual crops of our own cereals. In short, the import of cereals and fodder will be an important supplement in case of bad crops, which depends, first of all, on the climatic conditions. Unfortunately, the continuous climatic anomalies prevailing in Poland create a threat to economic plans, and one of the provisions against these effects will be a variable import volume of cereals and fodder. There are chances that the volume of agricultural production, and mainly of animal production, will be maintained on a stable level. This is an important change in our agricultural policy, which encourages many customers to import food from Poland, for the agricultural production entered the road of a steady and systematic growth.



# TENDER CONCERNING T

A considerable production rising of beef-cattle for slaughter makes one of the basic elements of the long-range planning of the cattle breeding development in Poland. This fact is connected with the planned consumption increase and improvement of up-to-the present existing consumption structure on behalf of beef, as well as widening of export assignments. These assignments result from premisses of agricultural and breeding nature, as well as from great possibilities being up to the present not profited of.

The household cattle has a number of breeds and types which within the historical process had undergone a refining owing to selection, whose direction was indicated by requirement for a definite practical necessity.

The main consumption articles are milk and meat. There are raised the breeds of a high producti-

vity. Problem of utilization of meat and milk takes place simultaneously at a given breed. The Dutch livestock breeding methods had a decisive influence on the livestock breeding in Poland. As well as in other breeding methods, it was possible to observe an essential turn in direction of creating a cattle breed of a high milk output and a fat percentage, as well as of a high meat output.

There exist certainly at present the cattle breeds of a unilateral utilization as for example "Jerseys" or "Charolais", but the cattle breeding in Poland of a unilateral utilization had not found in Poland a wider application.

On the contrary, within the last twenty years a rapid cattle breeding progress took place in Poland. This progress concerns the milk as well as meat output. The reasons of these phenomena should be looked for in a series

of agents of genetic as well as nutritive nature. Such agents as selection, widely applied artificial insemination, gradual improvement of nutrition, all this caused that the Polish cattle may widely be exported, and there is continuously arising interest with our cattle on the world markets.

Poland has a long time cattle export tradition on the foreign markets.

Within the pre-war period there were exported mainly the cows and draught oxen fattened to the weight exceeding 550 kg. It is clear that the meat from such a cattle stock was darkred, externally fattened and intercellularly superfatted. The permanent demand on one hand and deepening shortage on the other hand for the red meat, as well as dietetic recommendations caused rapid production rises and considerable weight increments, this meaning the pro-





# YOUNG FATTENED AND SLAUGHTER CATTLE

Zdzisław Brylski

ess of beef production modification from extensive into intensive one. In this way the customers' tastes had changed on behalf of beef which should be lean, pithy, young, of rosy-red colouration and juicy. Such a meat may be obtained from breed being especially selected and giving hope of high weight increments and of perfect constitution and type. It is clear that it matters especially of male units.

## Cattle types and breeds

breeding regionalization in Poland is strictly connected with a range of agents of economic as well as geographic nature. Primarily this regionalization was observed very strictly. There were determined the region frontiers. Spreading the cattle of a given breed within another region, not being foreseen for it, was not admitted.



In parallel with agricultural progress the feeding stuff increase, as well as farmers professional level improvement, an expansion of highly productive breeds took place, this successively causing the alteration in cattle regionalization. The trends of these alterations mean the construction of the breed regions of a lower milk and meat output, for example superseding the cattle of Polish "red" breed by lowland "black-white", lowland "red-white" or Simmental cattle being observed in southern voievodships. Surely, the supply with foodstuff is not the sole agent being able to regulate the regionalization. Not all cattle breeds or types are adapted for a greater height over the sea level, and further the climatic and foodstuff differences are playing a considerable role. For this reason we meet at present in the cattle export production the cattle stock increase even voievodships which up to the present did not represent this production branch on a wider scale.

The cattle of lowland "black-white" breed occupies in Poland the first place as to its quantity. There is no voievodship in Poland in which the above breed was not present, and a range of voievodships makes its exclusive domain. This breed makes 100 per cent of cattle stock in Szczecin, Koszalin, Gdańsk, Bydgoszcz, Zielona Góra, and Łódź voievodships. The Poznań, Warszawa, Kielce and Lublin voievodships display a considerable majority of the lowland "black-white" cattle breed. To-day we can distinctly emphasize that this is an equalized and uniform material.

The breeding was based, as it already was mentioned, on the Dutch bulls import, this resulting in a more considerable standardization of the cattle types. The export suitability of this cattle is very high, provided that the proper breeding and selection methods are observed. The cattle of lowland "red-white" breed is regionalized in Wrocław, Opole and Katowice voievodships. Lastly there is observed a considerable interest with respect to the above cattle type in other regions.

This type of cattle is perfectly suitable for interbreeding with Simmental cattle. This is characterized by an excellent meat contents, at a slightly thicker skeleton than at lowland "black-white" cattle.

Slaughter meat output is very high. The export suitability is also very high, similar as in the case of the lowland "black-white" cattle.

The cattle of Simmental breed is regionalized only in the southern districts of Rzeszów voievodship. This cattle is produced on the base of bulls imported from Austria for the type standardization. This type of cattle has especially in Poland a perfect meat contents. Export suitability is a very high one.

The cattle of Polish "red" breed is regionalized in the southern part of Kraków and Rzeszów

voievodships, as well as in the regions of less intensive economy in Lublin, Białystok, Katowice, Warszawa, Olsztyn and Opole voievodships. This cattle is more and more forced out by the previously mentioned breeds. The export suitability is very low.

Beside the above mentioned we meet the interbreedings especially with the meat cattle whose export suitability is very high. Requirements for the above mentioned cattle breeds being qualified for export are as follows; compact structure characterized by the trunk structure being approached to quadrangle; the trunk should be relatively short at a large depth and width; the head should be light and of the shortened face part; the neck—short and wide, hide in the neck lower part—folded, breast should be wide, bridge—protruded forwards, front feet widely planted apart, withers—wide and low, spine and sacrum lines—straight, spine and loins—wide, ribs—barrel-like, rear feet—short of not too thick bones, being widely planted apart, hide—soft one, back part muscles reaching far.

The young bulls are selected all over the year on the entire Polish territory for the densely distributed nets of bases with the aid of buying organization carrying out the selection. Independently of clinical inspection directly prior to shipment, the cattle must be submitted to inspection serologically for TB and brucellosis, as well as suffer the protective vaccination against foot-and-mouth disease. Confirmation of the above inspections having been carried out is contained in an official medico-laboratory certificate which is drawn up on the day of shipment by an official veterinary.

The shipment inspection is carried out by an inspector of "POLCARGO".


Export possibilities of Polish cattle of high standard are very high, as they are based upon a continuous production development, as well as upon increasing from year to year demand for this cattle type on the foreign markets.

At present the cattle quantity in Poland amounts to 11 mln heads, therein 6.3 mln cows. Over 5 mln calves are yearly born, therein ca 2.5 mln bull calves.

These numbers are based upon our export programme foreseeing at the end of the present five-year plan the doubling of the fattened and slaughter cattle export.

As the main selling market the Italian market will remain, however there exists a well founded presumption that the qualitative values of our fattened and slaughter cattle are also properly appreciated by the German and French markets. Poland intends to offer for the foreign markets the fattened bulls of weight 220—300 kg at the age of up to 18 months of the highest quality grade.





# Pig-breeders increasingly prosperous

*Ireneusz Dulęba*

**T**raditional peasant markets are a fair indication of the local standard of farming. Farmers come to these markets to sell produce at free market prices. It is a colourful and a noisy gathering, and above all it is very revealing. For example, every cart loaded with piglets immediately attracts a throng of buyers.

This means that farmers are expanding their piggeries.

This is undoubtedly connected with the government decisions of the spring 1971. An increase in the sales prices of pigs was to encourage the farmers to expand pig-breeding. In this way an effort was made to improve the market supplies of meat and its products, and also to expand the exports.

This objective is being systematically achieved.

In the Village People's Council at Siennica in the Mazovia region, the reporter is invited to come and see for himself:

"We'll go to Żaków, Drożdżówka, Siodło and the neighbouring villages. You will see for yourself what the pigsties are like.

A large brick building, clean and orderly inside, whitewashed walls. In every stall two or three porkers for fattening. In all, more than 20. They belong to Kazimierz Górski of Drożdżówka, one of the many breeders in the neighbourhood. In 1971 Górski sold 20 porkers to the Meat Centre. He is by no means a record-breaker.

His neighbours Antoni Duszczyk, Bolesław Wójcik, Kazimierz Makowski and others maintain their pig herds at a similar level. All of them have similar farms: eight or ten hectares of land, a few cows,

a horse. Some of the land is pasture, and the rest arable. Recently they decided to specialize in pig-breeding. Władysław Krasula has 30 pigs. Two sows which dropped litters last year have greatly helped to expand the herd. Some of the piglets he sold at the market and the remainder he earmarked for fattening. It has been a profitable policy. Inside his house we made a rough calculation. The opinions among the neighbours vary, since some of them breed pigs themselves, while the others prefer to buy piglets at the market, fatten them, and deliver the animals for slaughter to purchasing points. Both groups agree that pig raising has become more profitable. One of the farmers said: I sold 106 bacon pigs last year. I concentrate on fattening with





potatoes, with an addition of concentrated fodder. I think that I obtain results faster this way. I make a tidy bit on every pig sold. It is profitable of course, but one should take into account the fact that piglets were expensive this year. The demand was great, and therefore the breeders too wished to increase their budget. Pig-breeding expansion calls for mechanization of pigsties. Nearly every breeder now owns a steaming plant for potatoes which in this region provide the staple feed. Most of the arable land is earmarked for potato growing and — when properly cultivated — good crops on this type of soil are achieved. The farmers also buy considerable quantities of factory-prepared concentrated fodder, in some cases larger quantities than they are authorized to get by virtue of selling pigs under contract.

Obviously each farmer has his own know-how secrets. Most of them are not opportunistic pig raisers, and have been concentrating on rearing pigs for years. But now the conditions for this activity are better. Władysław Zgódko of Siennica owns new farm buildings, including a sty with more than 20 porkers. He owns two sows which provide stock for rearing. Next to the sty he has a large pen for a boar. This place is at the same time a stud point established by the people's village council. It provides a great facility for pig-breeders in the neighbourhood. The village zootechnician — a woman in Siennica — drew attention to a very advantageous circumstance. The farmers are getting rid of the black-and-white variety, and are switching over to the white breed, more economical in raising, and giving

better-quality meat. This means another stage of specialization. The farmers also intend to expand seasonal fattening. The foundation stock is kept in permanent sties, specially built for the purpose, while the stock for fattening is kept in summer sheds. Permanent pigsties may, and should be mechanized. Feed trolleys, for instance, are commonplace in this region. The farmers themselves display great inventiveness in this respect. The industry too, promises assistance. Until now — let us admit — mechanical equipment to assist livestock care has been devised by farmers and is remarkable both for its utility and soundness. Manufacturers of farming equipment are taking this into account. Farmers realize this. The increasing numbers of pigs will revolutionize the piggeries.



# ARMARDEMA AND OTHERS

"Armardema" occupies the stall of honour. On her right stands "Kukla", and on her left her daughter "Pierwiastka". Over the head of each a black board gives personal data: age, date of calving, date of covering, fat content...

There are 22 of such boards in the cowshed, since 22 cows constitute the property of Julian Drozd of Cielechowizna in the Mińsk Mazowiecki district. It is a rich cowshed, not merely in the number of cows, but primarily in the breed of the cattle kept in it.

Julian Drozd is a well-known breeder. He had inherited the fame from his father, took it up and consolidated it. He is particularly proud of "Armardema", the record-holder among all cows owned by private breeders. On the national scale she is beaten into the second place by her rival, a cow at Osowa Sien, a model state-owned farm in the province of Zielona Góra.

"Armardema" hails from the Poznan province. Drozd bought her six years ago. She now yields 10,122 litres of milk per year, with the highest daily yield of 40 litres. A veritable factory of milk. And not an inferior milk either. The fat content — 4.17 per cent, protein content — 3.1 per cent — all laboratory-tested. In other words, it is milk of the "A" class — top quality.

Julian Drozd's herd of cattle has been classified as a pedigree herd. Until recently it only had a reproduction status. Each cow has her own pedigree certificate. The district zootechnician is frequent visitor in Drozd's farm, giving advice and helping to solve the livestock problems. Although Julian Drozd has a successor: his eldest son is studying zootechnics at the Main School of Farming in Warszawa.

— He will be a good breeder — his father says. When he comes home, he goes to the cowshed first, inspects the cattle, and notes all changes. He also helps, mainly with the knowledge he has already acquired. Last summer he took samples of all hay harvests and examined them in

a laboratory. The hay value is high, and I am satisfied that throughout the winter the cattle will be sure to get good fodder.

This farmer is a self-educated man. The whole of his knowledge is derived from books, recently his son's advice, assistance from the agricultural authorities and... his own zeal for work. As regards the herd, Drozd is a walking encyclopedia. He knows by heart the age of each cow, its milk yield and the fat and protein contents. He works out himself fodder mixtures for each animal. He says that good hay is the basic food, but this is supplemented with factory prepared concentrated feeds. Proper feeding leads to success in the cowshed. Drozd owns three hectares of intensively fertilized meadows and 11 hectares of pastures. The harvest from this land has filled the whole barn with green fodder. In the summer the cows are grazed all day long. The pastures are grazed by the area system, with small plots fenced off with wires under current which act as an automatic herdsman. The wiring system is manufactured by the Radio Engineering Enterprise in Wrocław. But pastures alone are not enough, and the cows are additionally fed with concentrated fodder in the cowshed. Drozd has calculated that a pedigree cow kept on grass only may yield 15 litres of milk a day. This he considers to be too little.

In the barn each hay harvest is stored separately. Under each mow there is an electric fan. The farm is mechanized, and the cowshed fitted with running water and sewage. This greatly facilitates the work. Each stall is fitted with an automatic water trough, which is operated by the cow.

"I don't spare them water. They drink a lot, which is not surprising seeing that they give so much milk. In my cowshed I obtain an average annual yield per cow of 7,280 litres of milk, with an average fat content of 4.19 per cent."

Under an umbrella roof stands a threshing machine. The silos are full of fodder. In a garage an elegant Fiat passenger car is another proof of successful farming. Drozd is planning to mechanize further his farm. Therefore he likes to attend shows of farm machinery organized by state machinery centres in the neighbourhood "On those occasions — he says jokingly — I harness my horse-power. But I use my chestnut for field work and for taking part in sleigh cavalcades in the winter. But anyway, one doesn't have too much time to spare. Livestock breeding calls for systematic work; feeding at fixed times, milking precisely on the dot."

Drozd calculates the profit. For example, the electric fan installed in the barn makes him independent of the weather for drying the hay reduces the loss of nutrients and saves about 50 per cent of labour as compared with drying hay in the fields. Therefore technology helps, especially that Julian Drozd and his wife do all the work. Indeed he has children, but they are all at school.

Last year Drozd reared six bullocks and several heifers. For the winter he kept 10 milk cows and a few heifers. In the spring the herd will increase again. Pedigree heifers of the lowland Black-and-White breed from Julian Drozd's cowshed will be sold to other breeders.

Increasing numbers of farmers are coming to the conclusion that livestock breeding brings profits. But on the condition that it is pedigree cattle. The policy of the authorities is the same. There are more and more herds like the one of Julian Drozd and in each of them the rhythm of work is the same.

The farmer gets up early. Next he grooms the cows, since cleanliness is the basic condition of health. His animals are free from disease. Then the milking, straining and pouring into cans. Later the farmer carts the cans to the neighbouring dairy. And this goes on every day. J.D.



# What Novelties on the Poultry Market?



**Poultry breeding in Poland has been expanding tremendously in recent years. This dynamic rise was caused by such incentives for farmers as the growing consumption of poultry meat in Poland and the favourable development of exports.**

Farmers deliver more than 230,000 tons of poultry meat and some 7,000 million eggs yearly. These figures are rather approximate as farmers do not yet always keep the books, and a part of the poultry bred is consumed by themselves or sold on the town market.

The following data may be a testimony for the dynamic development of poultry breeding: while in 1968 68,400 tons of live poultry and 2,121 million eggs were purchased, in 1970 the purchases amounted to 95,000 tons of poultry and more than 7,430 million eggs. This year plans forecast the purchase of about 110,000 tons of poultry and 200 million eggs more than last year. Ducks occupy an important place. They are purchased through contracts signed with farmers and poultry industry's own plants (13,500 tons).

Turkey breeding and purchases are growing considerably from year to year and, during the purchasing period i.e. in autumn they attain over 2,000 tons. An important position in poultry breeding and purchases occupy geese, the purchases of which amount to more than 15,000 tons. Nearly 67 to 80 per cent of net meat is obtained from purchased poultry. More than 90 per cent of geese, two thirds of ducks and a considerable number of turkeys are sold abroad, mainly to countries of Western Europe such as the German Federal Republic, France, Austria, Switzerland and Belgium. Polish geese gained there a very high reputation and the approval of the consumers. For geese meat and down we obtain yearly more than 10 million dollars.



Polish geese are known by their crisp, white meat with a small fat layer, whereas down and bedding feathers are first of all clean and perfectly fit for making pillows, eiderdowns, etc.

The exceptionally favourable opportunities for Polish geese on foreign markets incited the breeders and concerned tradesman to organize geese breeding on new principles. It is common knowledge that till now geese, from hatching to their sale are pastured on grass-land, pasturages, ponds or other waste land. The breeding was, in other words, based on natural conditions. The breeding base founded on natural conditions started to shrink in recent years, as a result of taking under cultivation meadows and waste land. Geese breeding in small farms sensibly decreased. Last year purchases abated by 7,000 tons. The State granted assistance to the breeders in offering better purchase prices and breeding advice.

A vast programme of poultry breeding development provides for a rise in purchasing prices for live poultry, delivery of concentrated feeding stuff, veterinary-training care and securing delivery of healthy goose, duck and turkey nestlings from large hatching plants of the poultry industry to the breeders — small agricultural farms.

The plan of development of artificial hatching of goose nestlings anticipated for this year a production of 240 thousand nestlings. At present hatching plants with 50 laying hens on an average are also being developed in many provinces.

Reproduction flocks will be organized, first of all, in provinces where goose breeding has a tradition of long-standing and where the demand of eggs and poultry plants is the largest. To these regions belong, above all, the provinces of: Białystok, Kielce, Warszawa, Lublin and Łódź.

The best production effects are obtained by those breeders whose farm possesses at least 30 to 50 laying hens. Within the provisions of the signed contracts breeders are ensured

- nestlings at obtaining a high laying rate
- fodder for goslings rearing and grown-up flocks as well as qualified instructing control.

The breeder is required also to secure adequate space and sufficient fodder for the starting flock.

All these measures aim at raising poultry farming in general and of geese in particular.

Better prices for the breeders, a better organization of purchases, poultry fattening methods and processing may, according to the opinion of experts, double the quantity of poultry raised.

This will make possible a considerable increase of exports of the demanded dressed geese and ducks, and of feather and down.

*Mieczysław Samojluk*

## Professor Dr. Maria Szczygieł



The Institution of Food and Nutrition Teaching and Popularization in Warszawa was set up in 1963 simultaneously with the Food and Nutrition Institute. This Institution has been directed, from the beginning, by Mrs Maria Szczygieł, Associate Professor, who as an outstanding specialist in this domain, acts, among other things, as the Chairman of the Teaching Committee in the Interdepartmental Nutrition Committee at the Polish Academy of Sciences, and as the Chairman of

# Polish

## Professor Dr. Jerzy Sobieszczański



Assistant Professor Dr. Jerzy Sobieszczański is the Director of the Institute of Agricultural-and-Food Technology of the Agricultural High School in Wrocław.

The Institute was set up with the aim of educating specialists in the line of agricultural-and-food technology and of carrying on research on food preservation and the assessment of agricultural products. The areas of activities of this Institute embrace the provinces of Wrocław, Opole and Zielona Góra, which are provinces with a highly developed agricultural production, especially of vegetable production. The results attained in research primarily serve agriculture and



**ANIMEX**

**WARSZAWA**



the Board for the elaboration of school curricula at the Polish Ministry of Education and Schools of Academic Rank. She is the author or co-author of many scientific works. She published, among other things, "Draft of methods for estimation of food conditions", "Healthy nutrition — Healthy family" and many other works.

The Institution headed by her, carries out studies on forms and methods of teaching (training) and popularization of the knowledge on food and nutrition, and systematically puts into practice the results of the studies.

By the intermediary of the Main Methodical Centre of the Ministry of Education and Schools of Academic Rank the Institution organizes additional training for teachers, lecturing in the sphere of technology of food and nutrition.

As far as the popularization of knowledge is concerned the Institution takes part in the training of female instructors, operating all over Poland (Circle of Country-Houswives — "Praktyczna Gospodyni" — Practical Housewife) and prepares projects of educa-

tional aids for teaching and popularization of the knowledge of food and nutrition. At last, the Institution works out projects for large-scale illustrations, popularizing the knowledge of food and nutrition — and screen-plays.

It is worth while mentioning, that the Institution carries a series of publications in the monthly "Zdrowie" (Health) with the aim of popularizing knowledge of food and nutrition and elaborates many pamphlet and book editions.

The Institution does also its own research work aimed at the definition of the ways of nutrition of various social and professional groups; — it works also on the technology, organization and hygienics of collective nutrition.

The popularization work of Associate Professor Maria Szczygiel is directed at achieving that in both collective and home nutrition all agricultural produce and food products available in abundance in our temperate climate be utilized in full.

The experience of the Institution of

Food and Nutrition Teaching and Popularization is utilized not only by Polish scientific institutions but also by institutions of other countries. The results of researches have been sent to FAO. It is to be assumed that the developing countries will utilize them first of all.

The Institution maintains scientific relations with many countries, but in particular with food and nutrition Institutes. The Institution is visited by food and nutrition specialists from various countries and among other things, from the Netherlands, France and Great Britain. Mrs Szczygiel spent also several months in the USA and Great Britain on a scholarship stay. She took part at the World Health Organization Congress (GFR) in December 1970 and at the Nutrition Congress in Prague (1969) and Paris (1957). In 1961 she participated at the deliberations of the International Dietetic Congress in London.

In conclusion of our talk Mrs Maria Szczygiel told us that: "adequate nutrition is the condition of good health".

# scientists

the agricultural-and-food industry and also Poland's and world science.

Assistant Professor Sobieszczanski since 18 years has been engaged in research work which covers two basic directions:

... Cognizance of the role of micro-organisms in the life of cultivated plants, particularly the influence of the metabolites of these micro-organisms upon growth, development and nutritive value of cultivated plants. This research is carried out with the use of an original apparatus constructed according to the Professor's own conception.

... Studies of changes caused by herbicides in the natural environment.

Assistant Professor J. Sobieszczański is of the opinion that this research work should be governed by the principle: "healthy environment — healthy man". In this line he studies the changes in herbicides caused by soil micro-organisms and at the same time endeavours to define the newly created products during these changes and to study their influence upon the cultivated plants. Thus assistant Professor Sobieszczański is of the opinion that in agricultural practice should also be applied herbicides which would become completely decomposed and thus will be removed from the natural

environment. Moreover, the Assistant Professor stresses that not without importance for the nutritive value of the vegetable products are also the newly created compounds as a result of metabolization of these herbicides by the soil micro-organisms.

With the aim of deepening his knowledge in the field of microbiology, Assistant Professor Sobieszczański — in addition to studying at Polish universities and institutes — carried out scientific studies at the Lomonosov University of Moscow, at the Institute of Microbiology of the Academy of Sciences in Moscow, at the University of Leningrad, at the Agricultural University of Wageningen (the Netherlands), at the Agricultural University of Ghent (Belgium), at the Institut Pasteur and at Academies and Institutes in the German Democratic Republic, Czechoslovakia, Hungary and Bulgaria.

Assistant Professor Sobieszczański continues to uphold the scientific contacts he made during those periods of studies, which include, among others, contacts with Prof. N.A. Krasilnikov and E.E. Miszustin (Mishoustin) of the Soviet Union, Prof. G.E. Mulder of the Netherlands, Prof. Pochon of the Institut Pasteur in Paris, Prof. G. Muller of the German Demo-

cratic Republic, Prof. J.P. Voets of Belgium. Most of these scientists had the possibility of acquainting themselves with the results of the research mentioned during their stay at the Agricultural High School in Wrocław.

Assistant Professor J. Sobieszczański's scientific works are not only published in publications at home. They appear also in English in the scientific periodical *Acta Microbiologica*, in which the Polish scientist presents the results of his research on the role of micro-organisms in the life of plants cultivated, and in other periodicals such as, for example: *Annales L' Pasteur* and in *Soil Biology*, a periodical published by the International Society of Soil Science.

He also has presented reports on his work at many symposiums at home and abroad, as for example: at the International Congress of Microbiologists in Moscow (1966), the International Symposium on Plant Stimulation in Sofia (1966), International Symposium dedicated to the application of herbicides in Agriculture in Ghent (Belgium — 1970).

Assistant Professor Jerzy Sobieszczański participates in the work of scientific societies. He popularizes science in various publications and in the press.

Władysław Oryl





A good poppyseed cake, poppyseed pastry, crescent rolls constitute an elegant and appetizing dessert to coffee or tea. We advise that you do not forget to use Polish blue poppyseed for this purpose. Cake with poppyseed is a real dainty, for which housewives are lauded by invited guests. The Co-operative Foreign Trade Enterprise Polcoop deals with the export of Polish Blue Poppyseed.

# POLCOOP







One cannot imagine a meal without mushrooms. Preserves of various kinds of mushrooms are an excellent titbit to all kinds of meat. Polish mushrooms are delicious and wholesome and enjoy great popularity.



POLCOOP also recommends sauerkraut as an excellent additive to poultry, veal, beef and pork. Polish cabbage is very caloric and delicious. It is difficult to imagine a holiday table without this valuable hors d'oeuvre. The exporter of sauerkraut is POLCOOP, Kopernika 33, Warszawa, Poland.



# POLCOOP

## FRUIT AND VEGETABLES CULTIVATED ON POLISH BOG-PEAT TASTE THE BEST

Andrzej Modrzejewski

High peat is most frequently used in gardening, owing to its particular properties and a variety of features favourable for gardening purposes. High peat kinds are a botanically and chemically homogeneous material, varying chiefly by their decomposition grade. As a rule they have an acid reaction pH 2.8. to 4.5. Due to their spongy structure they have eminently absorptive properties in relation to

## POLCOOP

water and gases. The water absorption capacity of high peat oscillates, according to its decomposition grade, in the range of 800 to 2,500 per cent of the dry substance. Mineral components in high peat are almost exclusively a constituent part of peat-making plants, decomposing at a very slow rate, whereas free mineral components, assimilable by cultivated plants, are in such insignificant amounts that they might not be taken into consideration. High peat is free of weedseeds able to germ and fungi spores as well as of pathogenic bacteria.

Polish high peat is characterized moreover by a low decomposition grade (they are light-brown or dark-yellow), which makes it substantially superior by their physico-chemical properties to peat of a higher decomposition grade — dark one.

Peatbogs, where the peat is exported from, are situated in the Northern and North-Eastern part of Poland.

Peat is extracted in summer and autumn and kept on the peatbogs to freeze. Frozen peat changes its structure, acquires still greater porosity, becomes lighter and more elastic. Very propitious physical properties — air, water and warmth conditions — enable a many-sided application of Polish peat, in greenhouse flower growing and market gardening, garden cultivation grounds, for cultivation of lawns, for balcony flower boxes and flower-pots.

There are the following methods of using peat:

- for the fertilization of soils with or without organic or mineral fertilizers
- as a component for preparing various kinds of composts or as

- for soil mulching between rows of cultivated plants
- as a peat substratum, i.e. deacidified (limed) high peat, completed by nutritive components in the shape of mineral fertilizers, used as breeding-ground for the production of greenhouse-hotbed seedlings and for the cultivation of vegetables and flowers
- as subsoil in installations for cultivation by methods of cultures without soil
- for manufacturing peat pots
- as peat litter for breeding of small home livestock — poultry, cats rabbits
- for covering shrubbery for winter time.

### SOIL FERTILIZATION WITH PEAT

Mineral soils, both light-sandy and heavy-crusty and easily encrusting might be improved by peat

## POLCOOP

fertilization. An addition of peat to the soil improves its physical properties to a high degree.

In light soils water and gas absorption considerably increases, the soil colloid content rises, nutritive components supplied in the shape of mineral fertilizers are better retained and finally, soil is better heated during the spring season. In heavy soils, first of all, air-water relations and other properties are improved, resulting from the loosening of the soil structure and its enrichment with organic substance. The adding of peat to soil must not be treated as fertilization supplying nutritive components to the plants.

High peat, in the main acidic (below pH — 5), should get a supplement of soil lime ( $\text{CaCO}_3$ ) in an amount of 2—3 kg per 1  $\text{m}^3$ .

### PEAT AS COMPONENT FOR MANURE OR GARDEN EARTHS

Compost is often applied as fertilizer in greenhouses and ground plant cultivation. An increase of the amount of compost, as well as the retention of many valuable components, washed out or volatilized from the compost heaps, can be obtained by an addition of peat to the compost substance.

The remnants of cultivated plants and weeds are frequently used as material for compost. By adding peat to the components a decomposition of the organic stuff can be accelerated and an increase in the fertilizing value of ready compost can be achieved.

### HOW TO STACK COMPOST

The compost heap is laid down on a 15 cm peat layer over which a 15—20 cm plant stuff layer is put, then 10 cm layer of peat thus alternating as to obtain a compost heap 1—1.5 m high. The heap is then covered with a 10—25 cm peat layer.

### PEAT MULCHING

Mulching consists in covering the soil surface between the rows of cultivated plants with 1—5 cm and even 10 cm thick peat layer. Peat mulching can be applied also in greenhouse cultivation, having a very beneficial effect on the growth and fruit bearing of tomato plants. Lawn mulching with fine garden peat yields very good results.

## POLCOOP

### PEAT SUBSTRATUM

High peat, deacidified by the addition of lime and supplemented by nutritive microcomponents— mineral fertilizers, are called peat substrate.

Contrary to garden earth, peat substrate contains no pathogenic bacteria and fungi, which account for the decay of seedlings and plants in farther vegetation stages. The application of substrate eliminates the very expensive soil disinfection (by various sorts of disinfection, e.g. steaming) and frequent soil replacement.

For the production of substrate one uses high peat. Frozen and well loosened peat of low decomposition grade from the Northern peat bogs is the best suitable for that purpose. For an adequate



deacidification of high peat one should use 1.5 to 3.5 kg CaO per 1 m<sup>3</sup> of subsoil (3 bales). Peat substrate might be used for cultivation after 2—3 days from the time of its preparation. It might also be stored for a longer time.

## HIGH PEAT AS SUBSOIL IN INSTALLATIONS OF EARTHLESS CULTIVATIONS

High peat of a low decomposition grade, as well as its fibrous fractions, which are often considered to be worthless components, can yield a good subsoil for earthless cultivation. Peat substrate is also used for cultivation in hydroponic installations, supplying nutritive solutions by infiltration. The bedding should be 10—15 cm thick. Supplementary plant feeding is carried out 4—6 weeks from the setting of plants through periodical pumping in of nourishment into the grit filtrating layer, over which the peat substrate has been laid down. The solution in the layer enabling to contact with the peat remains in the beds during 1—2 hours, and then the nutritive solution excess, non-retained by peat, flows back to the container. Administration of the fertilizing solution during the spring season is repeated every 10—14 days, and twice or thrice weekly during the high period of plant vegetation.

## PEAT FOR MANUFACTURING OF PEAT POTS

70 per cent of fibrous high peat and 30 per cent of cellulose is used for the manufacturing of thin-walled peat pots. The setting of plants, whose seedlings are sown into the soil together with peat pots in hotbeds and greenhouses does not restrain the plant vegetation, bringing therefore about a crop forcing of 2—3 weeks.

# POLCOOP

## PEAT FOR PRESERVING PLANTS DURING THE WINTER SEASON

The high insulation qualities of peat and its sterility qualify it among the best materials for covering perennial plants for the winter season.

Shrubbery, e.g. rose-bushes as well as other cold-resistant green plants, are covered with small peat heaps 3—5 cm high. Peat-covered plants are protected against the impact of wintery low temperatures as well as against sudden fluctuations of temperature during the early spring season, when the plants are the most easily destroyed by frost.

## PREPARATION OF PEAT FOR EXPORT

Suitable crumbled, screen-sifted peat is pressed into polyethylene bags 0.17 m<sup>3</sup> capacity. The compression degree amounts to 2.5:1, that means that 420—430 litres of crumbled peat are poured into the bags. The bags are sewn up with very strong plastic threads. Such threads do not give way during transportation nor do they rot in case of prolonged storage or repeated rainfalls. Polish peat is readily purchased by foreign customers. Its exceptionally high quality, low decomposition degree, extremely favourable physico-chemical gardening properties (e.g. absorption 150—200 per cent, resilience, good aeration conditions, easy crumbling, low powder content and the large quantities of peat pressed into bags make for its purchasing attractiveness.

The peat industry augments every year its export production by several hundred thousand bags and there are real possibilities that by 1975 the present production will be at least doubled.

*Andrzej Modrzejewski*

Peat exports are run by the **POLCOOP — Foreign Trade Enterprise of the Central Agricultural Union of "Samopomoc Chłopska" Co-operatives.** The railway cars load 450—500 bales.

# POLCOOP

## HORSE MEAT

## IN DEMAND

## ON THE EUROPEAN MARKET



*Józef Szelągiewski*

Considering the growing demand on the European market "Polcoop" initiated in 1960 the production and exports of horse meat. The first consignments were produced as soon as the first year and were exported to such countries as Great Britain and Sweden.

A dynamic development of varied assortment of horse meat exports took place in the years which followed, as new processing factories have been put into operation. The exports attained a considerable level as far back as 1966. Horse meat is being exported to two other markets i.e. to the Netherlands and Belgium.

In 1967—1970, owing to the high quality of its products "Polcoop" entered other foreign markets. Horse meat is exported at present to Sweden, Great Britain, the Netherlands, Belgium, France, Switzerland, Austria and Japan. In 1970, the total exports attained a top-level figure of 8,203 tons. Meeting the growing demand of foreign customers, "Polcoop" began in 1970 to put into service two new meat processing factories. The factories started the production of considerable amounts of meat in the first quarter of 1971. The products obtained from these factories will enable "Polcoop" to increase the exports, and thus to cover the new contracts still flowing in from foreign customers. The now available production capacity, undoubtedly large, does not however enable "Polcoop" to fully meet all demands of foreign customers. The fulfilment of further new contracts will be possible as new processing factories, now under construction, start their production. If however, the processing factories existing now as well as the newly erected ones are not sufficient to cover entirely the foreign customers' requirements, the Central Agricultural Union of "Samopomoc Chłopska" Co-operatives will proceed to reconstruct the now existing plants and to build new ones.

In order to attain the highest production level, the existing plants have been equipped with the most modern installations which enable to maintain the highest sanitary conditions.

The high level of the State veterinary service embracing breeding, purchase and processing guarantees the highest health qualities.

Taking into account the veterinary service requirements of the importing countries, the horse meat processing plants have been equipped and adapted to produce according to these requirements and the factories obtained an export status. The "Polcoop" Foreign Trade Enterprise, in order to guarantee the full meeting the foreign customers' assortment, proceed to process the following products:

1. Horse meat fresh, compensated with bones, chilled to a temperature of +8°C
2. Horse meat fresh, uncompensated, fores or hinds, also chilled to +8°C
3. Horse meat, fresh, hinds only "pistoła" type, chilled to +8°C,
4. Colts' meat, fresh, compensated, chilled to +8°C,
5. Horse meat, fresh and frozen in parts, boneless,
6. Horse meat fresh, for processing purposes chilled to +8°C,
7. Horse meat, deep frozen in quarters, compensated,
8. Horse meat, frozen, boneless, untendoned, fores and hinds, packed in special cardboard, assigned for the processing of sausages,
9. Horse meat, frozen, boneless, uncompensated, packed in cardboard assigned as fodder,
10. Plucks — as hearts, tongues, liver, lights, kidneys, milts — fresh and frozen, packed in cardboards,
11. Melted horse fat, packed in barrels of about 150—200 kg.

The use in horse meat transportation of modern high quality refrigerating trucks gives a full guarantee that the product arrives to the foreign customer in a very short time and in an entirely fresh state.

The processed and exported horse meat is of the highest quality, thanks to the natural breeding conditions.

The main Polish horse breeds are noble, warmblood horses, yielding in production thin fibered meat without fat-saturated infra tissue. A slight fatness occurring on the outer part of the carcass forms a natural protection for the meat tissue.

Polish horse meat is second to no other meat sorts in respect of its nutritive value, particularly to beef, which is by its taste and appearance most similar to horse meat. Its protein content, the most valuable meat component, amounts, as in beef, to 20 per cent on the average.

In respect of dietetic values it surpasses not only pork, but also beef. It is common knowledge that fresh horse belongs to the most wholesome meats. Colt flesh is one of the most dietetic and wholesome meat assortments.

Doctors and dieticians recommend horse meat not only to sick persons and convalescents but also to people in good health, and owing to the rich content of specific protein, recommend it to those who execute hard physical or mental work.





"POLCARGO" carries out quality inspection, ascertainment of weight and quantity of citrus fruit as well as supervision of these both in Poland and abroad at the request of either foreign or Polish principals.

"POLCARGO" has at its disposal quite a number of highly qualified and experienced inspectors and up-to-date, well equipped laboratories of its own, rendering it possible to select an efficient inspection of citrus fruit.

The inspection of citrus fruit may be carried out in accordance with the Clients' request — either in suppliers' warehouses or in harbours and at loading stations as well as at discharge in Polish ports and at frontier crossing points inland.

"POLCARGO's" inspection of citrus fruit consists in:

- organoleptic assessment
- laboratory analyses
- checkweighing and tallying

## INSPECTION OF CITRUS FRUIT



**POLCARGO**  
**International**  
**Superintendence**  
**and Testing Services**  
**Phone 21-39-21.**  
**Telex. 051-247.**  
**Cables Polcargo —**  
**Gdynia**  
**Żeromskiego 32**  
**Gdynia — Poland**

- supervision of segregation
- ascertainment of damaged goods
- inspection of transport means
- determination of loading methods.

Such an inspection can be selected as one applying to parcels, lots, calibres as well as to various packing types.

The yearly volume of citrus inspected by "POLCARGO" in Poland and abroad amounts to 100,000 tons, attended to while taking into account the international customs and standards in force.

The high qualifications of "POLCARGO" specialists as well as their impartiality ensure a remarkable accuracy of their findings, while taking into account only an indispensable minimum of packing units same favourably influence the economic part of the transaction.

Likewise the inspection fees charged by "POLCARGO" compare favourably with the advantages the Principals enjoy in case they entrust "POLCARGO".



# Polish Baltic Sea Fish

Bogusława Gozdek

The Polish fishing fleet is catching on many world fishing banks among other things on deep-sea fisheries, beginning from Labrador up to the African tropical fishing grounds and also nearer — on the North and Baltic seas. Inasmuch as large enterprises, employing factory trawlers are fishing on deep-sea banks, smaller enterprises, equipped with modern fish cutters, are catching on the Baltic sea basin.

To the principal enterprises may be numbered "Szkuner" at Władysławowo, "Korab" at Ustka, "Barka" at Kolobrzeg and "Kuter" at Darłów. These are cutter enterprises of long-standing fishing traditions.

These traditions as well as the convenient geographical situation and highly skilled staff bring about, that fish from their catches are a valuable raw material looked for both on the home market and abroad.

No wonder whatsoever that the sole exporter of Polish fish and fish preserves came into contact with them, and therefore a substantial part of the enterprises' production is assigned for export.

The enterprises' export production complies with the strict requirements of foreign customers, according to the proposals of "Rybex". The main fish caught in the Baltic sea are cod, herring, sprat and flounder.

The largest cutter enterprise, among the above mentioned, is "Szkuner" in Władysławowo. The enterprise lands more than 20,000 tons of fish yearly, of which more than 2,000 tons are earmarked for exports, first of all cod, herring, sprat and flatfish. It should be pointed out that this export has a continually growing tendency.

At present, the bulk of "Szkuner's" export namely beheaded cod is sent to Yugoslavia, filleted cod to Austria and small quantities of flatfish to Hungary. Fresh cod on ice is sent to Sweden.

"Szkuner" is also in possession of its own processing plant, which manufactures a wide product assortment, among other things boneless filleted cod, which won appreciation among foreign customers. The enterprise is also provided with a large cold storage plant, smokehouse, ice plant and the enterprise's own repair shops of fishing cutters, rendering running-repair service to other fishing enterprises.

Furthermore, the "Szkuner" enterprise purchases fish caught by individual fishermen and by co-operatives.

The "Korab" cutter enterprise in Ustka earmarks also a considerable part of its catches for exports. Its fishing attains 15,000 tons yearly. The main fish caught by "Korab" are cod, Baltic herring and sprat. "Korab" has its own cold-storage plant, processing factory, ice plant, repair shops, and above all a highly skilled fishing personnel, which contributes to obtaining products of the highest quality. The enterprise develops lately the processing of products of a higher grade of refinement, particularly of filleted cod.

The best part of the exports goes to West European countries.

The cutter enterprise "Barka" in Kolobrzeg is a fishing plant delivering cod and herring for export. One may observe here a steady growth of export production and a permanent care for the highest standard of products. At present "Barka" assigns more than 1,000 tons fish for exports, mainly for the Scandinavian and Yugoslavian markets, and lately also for the Austrian market. It is planned to deliver next time filleted Baltic herring to the Swedish market. "Barka" has been equipped for this purpose with a special Swedish machine for herring filleting.

Like "Szkuner" or "Korab", "Barka" purchases fish caught by individual fishermen or fishing co-operatives; the caught fish is processed in "Barka's" own processing plant.

Also the "Kuter" enterprise at Darłowo, which possesses up-to-date fishing equipment, has recently taken up production for export. The processing plant is equipped with adequate cold-storage rooms, scale ice factory and self-sufficient repair shops.

"Kuter" catches more than 16,000 tons yearly. Baltic herring, cod, sprat and flatfish are mainly fished and a part of this assortment is earmarked for export. It is expected to export in the current year fresh gutted cod and fresh Baltic herring on ice to Western and Northern European countries.

Among the smaller furnishes for export one should yet mention "Koga" on the Hel peninsula, exporting, among other things, cod, herring and sprat to the Scandinavian market.

Fish products supplied for export by the above mentioned enterprises, though amounting to only a slight part of the exported products, are not treated by "Rybex" casually, considering that the employed fishing staff with an experience of many generations successfully prepare products for the most exacting consumers, customers in countries with a tradition of fish consumption of many years' standing, who highly appreciate these purchases. Apart from that it is easier, in smaller scale production (in comparison with large oceanic works) to adapt to export requirements in smaller series and to the consumers of entirely different tastes.



# RYBEX



**Adam and Eve — the biblical names of the first human beings in Paradise. So it has been accepted that the sterner sex is generally called the Adams and ladies — Eves. Many are the jokes and anecdotes associated with this subject.**

me-day wishes to each other and bestow their gifts. He gave her, besides words of endearment and flowers, a beautiful, patterned folk apron (bought from his "nest-egg") of gaily-coloured Łowicz stripes, made of lambs wool on a hand loom, which can excellently be worn both as a skirt and as a cape on chilly days. She, with a charming smile, offered him an elegant leather briefcase — a true masterpiece in leather.

To-day, from early morning, they are bustling about their small, but cozy flat, furnished with taste, so that everything would be prepared for the reception of their guests. And so it has been adopted that the saying "put up a good front, whatever the cost" cannot somehow give way to economic reasoning.

The master of the house in trousers and white shirt, though still without a necktie or jacket, covers the table with a snowwhite tablecloth, setting plates, glassware and cutlery on it. He is a little awkward about it, but after all the Adams are not accustomed to such functions for every day. The result — a broken

The pleasure is suddenly interrupted by the irritated voice of his spouse:

— Adam, how can you? There is still so much to be done, here I'm toiling in the kitchen and you are watching TV. Women really do not understand men. After all every Adam — whatever his age — likes to look at Westerns.

— Darling — Adam tries to parley — it's only a little while and anyway, I hadn't seen the "Four Cuirassiers" today.

True, for right after breakfast he had taken his children in his well-worn "Warszawa" to their grandparents so that they would not be in the way during the reception. Adam's parents live in an attractive place in the Warsaw suburbs, of a pleasant name of Radość (Joy), and the kids will have excellent care, fresh air, excellent conditions for sleighing and the grandparents a pleasure.

— Adam dear — comes Eve's voice from the kitchen — please sprinkle a little olive oil on the herring and put in the toothpicks into the slices.

# ADAM AND EVE

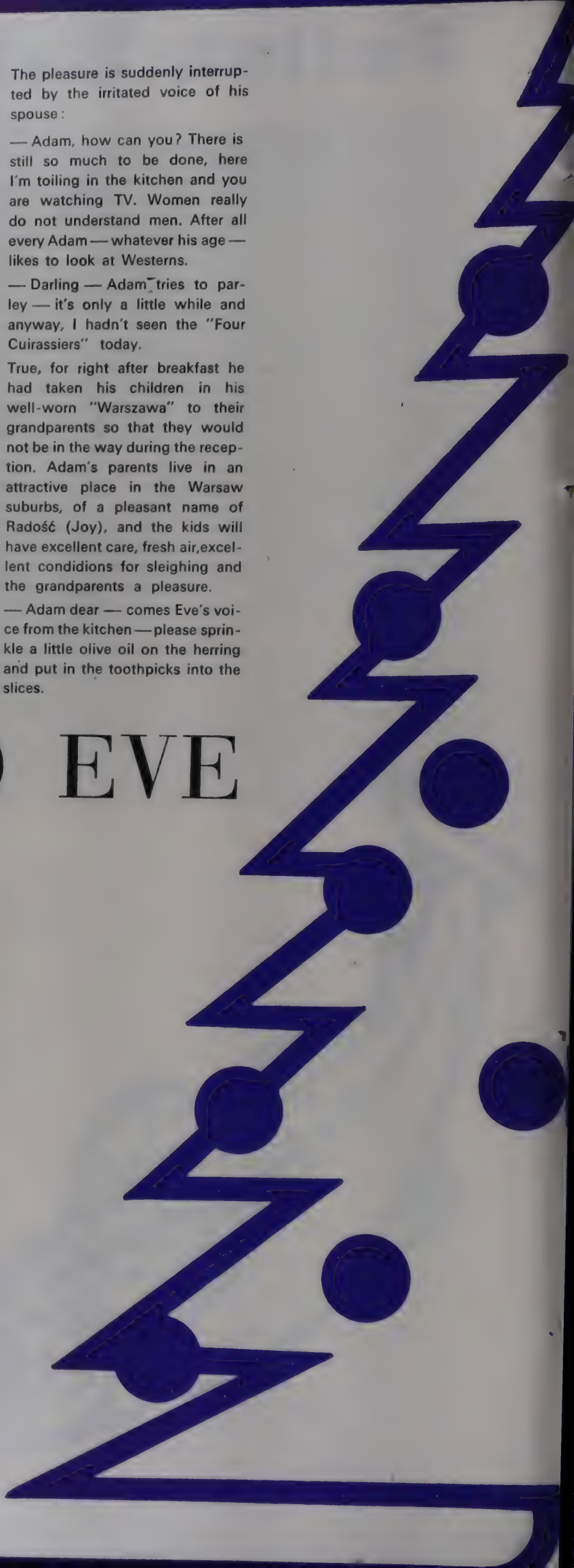
Mr and Mrs Adam and Eve Kowalski are a married couple, living in a country on the Vistula, where birthdays are not celebrated with pomp and ceremony, but name-days are. It seldom happens that this festive occasion comes on the same day and exactly in this case it took place right on the 24th of December.

This is a day of normal work, however everyone spends the evening festively, beside the Christmas tree, at the Christmas Eve table, among the closest family. Therefore, Mr and Mrs Kowalski put their official name-day off to the first day of the Christmas holidays. That was a happy coincidence, for three occasions could be united — the name-day of Mr. and Mrs. and the holidays, for which, in conformity with tradition, the most diverse titbits can be prepared for which the Polish kitchen has long been famous. Afterwards very often the doctor must be called to those that had become sick from overeating delicacies, for it is so difficult to refuse the pleasures of the palate. The married couple had already had time to express their best na-

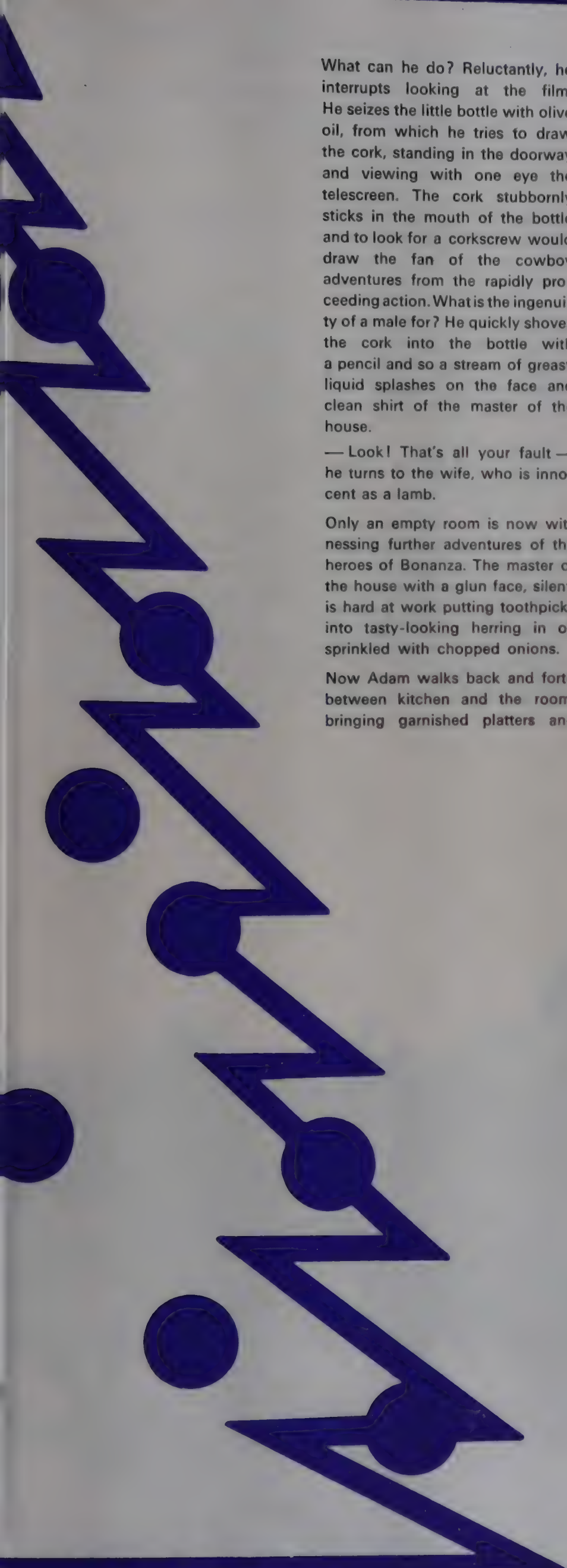
whisky glass, which — he explains to his wife — is for luck.

Eve, with a kerchief on her head, an apron and in house slippers, is bustling around the kitchen, for although everything has been ready for long past, there is always still something to be done: a bit of seasoning here, something to be sliced there, heated or garnished. An observer would have to admit that although Mrs Eve is an engineer as to vocation and education, yet she is able to cope well and efficiently with the intricacies of the culinary art.

Mr. Adam, having somehow managed with setting the table, switches on the television set. They had just exchanged their old one for a new type called "Granit". For, how can one not look at "Bonanza", even on such a day? After a while comes the well known melody and the four likable figures on horses appear on the television. Adam seats himself comfortably in an armchair, reaching for a "Carmen". The sputter of a match and the contented master of the house inhales the fragrant smoke, with his eyes fixed on the telescreen. The action of the film begins.







What can he do? Reluctantly, he interrupts looking at the film. He seizes the little bottle with olive oil, from which he tries to draw the cork, standing in the doorway and viewing with one eye the telescreen. The cork stubbornly sticks in the mouth of the bottle and to look for a corkscrew would draw the fan of the cowboy adventures from the rapidly proceeding action. What is the ingenuity of a male for? He quickly shoves the cork into the bottle with a pencil and so a stream of greasy liquid splashes on the face and clean shirt of the master of the house.

— Look! That's all your fault — he turns to the wife, who is innocent as a lamb.

Only an empty room is now witnessing further adventures of the heroes of Bonanza. The master of the house with a glum face, silent, is hard at work putting toothpicks into tasty-looking herring in oil sprinkled with chopped onions.

Now Adam walks back and forth between kitchen and the room, bringing garnished platters and

plates to the table. A carp in jelly, stuffed pike, sliced thin, pink ham and a plate of tenderloin, decorated with sprigs of green parsley and lettuce leaves come out of the fridge. Real country sausage diffuses an appetizing smell and the thin dry smoked pork sausages gleam with an opalescent bronze. The toadstools made of eggs and tomatoes look funny, growing out of finely chopped chives.

The table slowly becomes full. It is becoming more and more appetizing, encouraging to feasting and here something keeps being added to it still. Here is horseradish, there mayonnaise, and then delicious conserved pickles and of course marinated Lactarius deliciousus — most excellent delicious mushrooms. Mrs. Eve decorated the butter by making it look like a rose. All sorts and kinds of salads, garnished with lettuce leaves and one made of crayfish, so rarely found on the domestic market because all the catches of these crustaceans are destined for export. The table became a veritable exhibit of gastronomic delicacies, although it is not easy to excite admiration by food in this country. After all, these are barely cold entremets. A ruby red beet soup is being warmed in the kitchen.

Then bigos — the most Polish, almost historical dish, to which in addition to cabbage, tomatoes, apples, vegetables, all kinds of meat and sauces, mushrooms and diverse condiments, a bottle of sour red wine is added, at first chilled then warmed. And roast turkey? And desserts, compote of dried fruit, layer cakes, cookies, poppy seed cakes, fruit drinks, seltzer water. There will also be real English tea or Brazilian coffee, as one wishes.

Alcoholic drinks, just being chilled in the fridge, are a separate chapter — the domain of the master of the house. Polish vodkas and liqueurs in bottles of shapes in good taste with ingenious labels, the majority of which bear the mark "Q", of the highest world quality, for they are the famous, known and in demand throughout the world, Polish vodkas and liqueurs about the derivation, recipe, production and popularity of which a scientific treatise might be written. There are also several bottles of export beer "Żywiec" which in quality does not yield even to the famous "Pilsner".

There is much of everything to be sure, but there will also be plenty of persons and this will be as is

generally said "sit down once — to supper and dinner". The next day will also be a holiday, and the guests need not hurry home, hence the feast as well the fun draws out into the wee hours of morning.

Mr. Adam in a changed shirt, in a faultlessly tied silk Milanówek tie, in a faultlessly cut suit, fragrant from the excellent toilet water "Alibi", struts into the kitchen and looking at his watch, expresses his surprise that his wife is not yet ready, and here guests may arrive at any moment. Mrs. Eve quickly puts the last touches to her culinary activities and runs into her room to prepare herself no less carefully than she did her dishes.

It was high time, for soon the loud ringing of the bell resounded and the first guests stood in the doorway of Mr. and Mrs. Kowalski's flat. Mr. Adam was helping to take off the coats of the newcomers when an elegant lady, beautifully dressed in a cocktail gown, looking as if she had not been working a moment ago in the kitchen but had been resting to look her best at the reception, came to greet her guests with a smile.

Now, almost every little while the bell resounds and new guests keep crossing the hospitable threshold.

Best wishes are proffered by the guests first of all and obviously gifts also. Besides flowers for the lady, boxes of "Wedel" chocolates, Pollena perfumes and cosmetics, something from "Jablonex" or Ormo jewellery, there were also many tasteful presents for both husband and wife from Cepelia, so very fashionable today. The master of the house also got a fine English pipe and a bottle of Napoleon.

The lady of the house put an end to the mutual courtesies and compliments, inviting everyone to take a place at the copiously laid table.

Mr. Adam began to officiate pouring drinks from the misty bottles into cut-glass glasses for each person according to his taste.

Soon the pleasant tinkle of clinking glasses resounded and toasts showered down: Prosit, Eve, Prosit Adam, Prosit Adam and Eve, Prosit Guests, Prosit Ladies etc. etc.

And since there was much to eat and to drink, more than once that evening resounded with the traditional Old Polish song "Hundred Years, Hundred Years, May you live Hundred Years for us!"

R.W.



# Sleigh cavalcade- wintertime carnival revels

Almost any Polish encyclopedia will give the following definition of a sleigh cavalcade:

"... in old-time Poland, carnival revels organized in the depth of winter, consisting in cavalcade drives in many sleighs, with music and singing, to the neighbouring houses and villages..."

The winter revels were often described by Polish poets and authors. Today we chose some of them to let you imagine what they were like:

"... A sleigh cavalcade was speeding across the snow-bound countryside of the Sandomierz district. A chain of several dozen sleighs awoke the whole neighbourhood with their shouts and the tinkling of the harness bells and janissaries, the cracking of whips, the noise of drums and horns and the melody of music and singing. A dozen or so of village youths astride cart nags tore along holding flaming torches in the wake of the sleigh of an arlekin who wore a black mask..."

"... Horses wallowed belly-deep in the snow, raising clouds of powdery spray from the biggest drifts which the arlekin's sleigh had just managed to plough through. The sleigh cavalcade knew no obstacles. Forming a long procession, sleighs of all shapes and sizes were speeding past. Some of them were coachmaker-built, with gold and silver adornments, dating back to the times of the Saxon kings and





King Stanislaw; some of them had the shape of swans with long necks, or the shape of eagles and griffins, driven four-in-hand with the horses' heads decorated with plumes; others were very crude, barely bearing a lick of paint given by the local carpenter... and were drawn by farm horses of all shapes and colours. Both splendid, teams of bloodhorses of great price, and modest farm nags threw themselves with equal bravado and dash into deepest snow drifts, like boats on a lake. Gaiety and joy bubbled in every heart..."

The winter carnival revels grew to huge proportions: tradition has it that they brought young strangers together, as if into a single family group. It also happened that the snow cavalcades have led young strangers towards a happy marriage.

Hey, the sleigh revelers drive on, will eat, drink and gallop on! The bells ring, the snow flies, and the music plays!

The above cavalcade mazurka song used to be heard in the towns as well. The one which began in Warsaw and ended at the Wilanow Palace of King Sobieski, consisted of, first, 24 Tartars, followed by 10 sleighs with four horses each, carrying the musicians, followed by a quarter-mile long cavalcade of 107 sleighs of the guests, and young gentlemen on

horseback. This cavalcade returned late at night in an illumination of 860 torches.

The years flew by, and the sleigh cavalcades have changed. The place of an arlekin who led the cavalcade from one manor house to another, has been taken by a tourist guide, whereas the most frequented routes now lead to the Kampinos and Bialowieza forests. The sleighs are common enough, peasant-owned, without gold and silver adornments. Anyway, who would want them like that nowadays?

The most important thing is fun, and being driven through the snow by galloping horses. Satiated with speed, noise and gaiety, sprinkled with snow and feeling a bit chilly, they all stop in a forest glade for a rest and a meal: hot tea, bigos and spit-turned sausages are then gourmet dishes. Considering that in a real forest one has a real wolf's appetite, the meal is like in the Saxon king's times: eat, drink and be merry!

With torches lit, to the sound of music and the cracks of the whip, the snow revelers return to town, full of song and fun.

Sleigh cavalcade as a carnival revel has survived in Poland to this day. Not so magnificent as before, yet organized by the ORBIS travel office for foreign visitors, it provides for them many unforgettable moments.





# PROGRESS IN THE PRODUCTION OF PACKAGES AND PACKING MATERIALS

In recent years we have noted in Poland a marked progress in the production of packages and wrapping materials.

During the years 1966—1970 the average rate of increase in the production of packages amounted to about 7.3 per cent. In 1970 investment outlays in the field of production of packages increased considerably and were allocated to the purpose of the expansion of the industry manufacturing metal, glass, plastic, paper and cardboard packages as well as other packings and wrapping materials.

With the aim of completing the technical equipment of the packaging industry, in 1970 were imported up-to-date machines, and equipment to the value of almost five million dollars.

Of the more important factories manufacturing packages put into operation in 1970 should be mentioned:

- the Fabryka Opakowań Blaszanych (Metal Container Factory)
- a tomophane block
- a new corrugated cardboard manufacturing department
- a new glass container department
- an up-to-date department manufacturing "Twist Off" contact lids.

It is noteworthy that as a result of the introduction of technical progress, production of a number of new package assortments has been started:

- plastic helping packages of the "form-seal" type for fruit products
- valves for aerosole containers as well as cases for transportation, tubes and woven plastic bags.

Moreover production of plastic bottles has been increased and their application has been widened to, for example, edible oils. Only some carried

out investment enterprises have been mentioned here, ones which improve the supply situation in packages and wrapping materials especially for the food industry, which is the consignee of about 60 per cent of the total home production of packages.

That is why food industry and its individual plants aim at a quick introduction into production of up-to-date packages and wrapping materials which not only improve the aesthetic appearance of food articles on sale but also improve the quality and prolong their durability.

With the aim of adapting itself to the requirements of customers abroad, the food industry gives priority to small unitary packages which embrace modern constructional and graphic solutions and are made of high quality wrapping materials. Meat products, which are exported by Poland in a wide assortment, are packed in tins of various thicknesses and shapes. In most cases colour lithography, which raises the aesthetics and appearance of the meat products, canned poultry, fruit and vegetables is applied.

The recently started own production of screw caps permits the spirit industry to export its products only with the use of corks of this type. A widened and modernized production of fashioned bottles for the export of alcoholic products and an aesthetical graphical arrangement of labels, raise the outward virtues of this high in quality product which are Polish alcoholic drinks, which thanks to, among other things, modern and aesthetic packages find ever larger numbers of buyers abroad.

In the production of glass packages there has occurred a marked progress as a result of just the supplementation of the glass industry with imported modern machines and equipment.

We may note with satisfaction a visible progress in the production of plastic packages and wrapping materials, of which the food industry is the biggest customer.

The quality of tomophan manufactured, including the modified and lacquered brands, improved visibly and the modernized production hard foil from PCV (polyvinyl chloride) influenced the improvement of deliveries of plastic packages for the food industry.

We are noting also a great progress in the production of aluminium foil, which finds wide application in the production of higher grade margarine, tobacco products industry, food concentrates and especially of the confectionery industry, which is the biggest consignee of this valuable wrapping material. This progress in the production of aluminium foil is connected with the installation, towards the end of 1970, of new equipment in the Walcownia Metali Lekkich (Light Metals Rolling Mill).

Also production of polyethylene foil and ready packages made of this material, which are used in the poultry industry for packing poultry, in the refrigerating industry for packing deep-frozen fruit and vegetables, in the meat industry for linings in ham and meat preserve tins for wrapping meats in blocks and ballots, in the confectionery industry for packing cakes and sweetmeats, in the brewing industry for the production of bags for packing malt for export.

Advancement in the production of plastics permits realization of technical progress in the food industry through the introduction of modernization of the automation of wrapping and packaging of food products.

Thanks to the increase of the production potential by the building of new factories and production departments and the modernization of pro-





## IN POLAND

duction process In the paper industry, there occurred both a quantitative and qualitative improvement in the supply of the food industry in high grade paper and cardboard. This is the result of the installation of up-to-date machines and equipment either of Polish production or imported. These machines and equipment manufacture a considerably larger assortment of paper and cardboard products which are of higher grade and are required by the food industry.

We also note progress in the printing industry, which in recent years has been considerably modernized.

This greatly abbreviated presentation of the technical progress achieved in Poland in the production of packages and wrapping materials does not close this important problem, as the elaborated programme for the development of the production of packages and wrapping materials for the years 1971—1975 will be an integral part of general expansion of the economy.

By building new factories, by the expansion of the existing ones, by modernization and automation we will create an up-to-date production basis in the line of packages and wrapping materials.

The full realization of the investment programme for the years 1971—1975 in the line of packages and wrapping materials will contribute to a further advancement in this domain, will bring about a further improvement in the outward appearance of Polish food articles on foreign markets and will thus strengthen their position in export. As it is Polish food articles have export traditions of many years standing, are renowned for their quality and tastiness, since they are made from the very best raw materials. That is why they find many willing buyers on all world markets.

*Mieczysław Stępiński*



# 500 year old tradition

Poznań. Year 1971. 5, Komandoria Street. At the front door we see a table "Poznańskie Zakłady Przemysłu Spirytusowego" (Alcohol Industry Works of Poznań). Two years ago these works celebrated the 50-th anniversary of their existence. Perhaps just for this reason the tradition is here highly appreciated and esteemed.

The works laboratory bears a resemblance to a medieval alchemist's laboratory combined with a modern one.

The laboratory tables are filled with bottles of various sizes, vessels of odd shapes, tubes, flasks, etc. On shelves — phials with coloured reagents and samples of various supplements. On the contrary, the wide windows giving a large access to light, refrigerators placed aside, as well as the modern complicated laboratory equipment, remind that it is XX-th century of radio, television electronics and cosmic flights, and however the researches carried out here are based on recipes "with tradition" (some times of many centuries), these may be considered as the most modern ones. Here are carried out the various sometimes complicated researches concerning the value of individual component-supplements to vodkas; also here are elaborated the new, being unknown up to the present, recipes of the new flavoured vodkas. In the office of dr Bolesław Skrzypczak —

the Laboratory Manager — a small exhibition may be visited. In the show-cases located around the room, there are seen the bottles with spirits being well known all over the world. Aside of choice brand vodka, we see "Żubrówka", "Jarzębiak", "Krakus", "Cherry Cordial" and may others.

Dr Skrzypczak takes one bottle with red-coloured liquid. "This vodka" he says "has appeared in our works only a few months ago. Its recipe was elaborated on the request of French customers by pattern of similar vodka willingly consumed in France. Immediately after having elaborated the recipe, we started the production and bottling of this vodka designed for export. This vodka is called — Red Pepper flavoured Export Vodka".

When talking about this vodka, stress should be put on the fact that this is a dry table vodka being prepared on rectified pure potato alcohol of superior grade and aromatized with diluted spirit being poured on the black pepper and spicy red paprika-fruits with addition of refining components. "The red vodka colouration results from addition of red-scarlet dye-stuff" tells dr Skrzypczak "and is adapted for the customers' tastes in France where this vodka is exported".

Another quite new vodka brand is presented by "Tatra" or as it is used to say with us "Tatra vodka".

This is a vodka which traditionally has been produced in the Kraków surroundings already since one hundred or even more years. It is produced by "Krakowskie Zakłady Przemysłu Spirytusowego" (Cracovian Works of Alcohol Industry). This is also a dry table vodka of pale greenish, yellow colour, of a spicy herb smell and taste with angelica flavour.

Further dr Skrzypczak adds: "This new excellent vodka consists of the common rectified spirit poured on dried leaves and roots. Besides, there is added a small quantity of sugar syrup and water. All these extras result in this excellent vodka. It should be kept in mind tells our collocutor when showing a bottle with nicely coloured vodka — that this one should be served always in a cooled condition".

In our talking participates Mr Janush Kujawiński B.Sc., Vice-Manager of Production Department. He tells that in spite of enormous devastations having taken place during the last war (the Works in Komandoria Street were destroyed in 60 p. cent), simultaneously with reconstruction the stress was put at the beginning on the vodka production development. This proved to be reasonable. The production has risen in the way as shown in the following table:





Production year	Quantity in thousands of lit.	
	Unflavoured vodkas	Flavoured vodkas
Up to 1939	2000	250
1945	800	400
1955	5400	2600
1965	8110	2820
1970	9600	5300

"As we are talking so much about vodkas", tells Mr Kujawiński "let us inform the readers that our works attach great importance to tradition; we endeavour to find the old valuable prints containing the descriptions of recipes and of everything concerning the vodkas. Thus there was found recently in the castle library at Kórnik near Poznań a book from XVII-th century mentioning about the advantages of vodka used as a medicine (see the photo aside).

On the title page it is written: "Title — vodka or booze" and further the text: "however the booze exists longsince, its advantages surely are unknown. Therefore read this book and then you will know how valuable properties has the booze for the saving of health"





This book was written in 1614, and certifies that the vodka production was known in Poland since over 500 years. Therefore it is no wonder that the name of alcoholic beverage "vodka" whose production is based on Polish methods, was accepted by other peoples. So for example the Czechs spell "vodka" or koralka, Bulgars — "vodka", Frenchmen — "eau-de-vie" or "vodka", Germans — "Brantwein", "Schnaps" or "vodka", Russians "vodka" Englishmen — "whisky" or "vodka", etc". But shall we finish with considerations, as Mr Kujawiński invites us to the bottling plant. Let us go! In a modern shop, two production lines are simultaneously operating. We approach one of them. The bottles having been washed clean are in series moved before the control screen. An attentive eye of the female operator is able to discover even a slightest impurification before filling the bottle. Such a control is rarely met with in the works of this type. In the works under consideration this is aimed to deliver the articles of the highest quality. Aside, at the filling aggregate another female operator is staying. And again the screen light is running trough the bottles, having the colour of bottled vodka. The filled bottles are running before the screen in uniform rows like soldiers on parade march. After the last control the filled bottles are running a small length on the band, and at last the skillful

hands of the female operator take them off the band and pack into cardboard boxes.

The manager informs us that a continuous progress in the vodka production process resulted in essential alterations also in the range of washing, bottling, bottle closing, as well as alterations in quality of packing applied. Washing and bottling had been automated, and from 1963 the bottles provided with thread and "pilferproof" closing had been introduced.

The modern technological solutions, as well as progress in the produced articles quality, had enabled the works to apply for obtaining the quality symbol for the articles produced. This application resulted in obtaining 36 quality symbols for their products, there-in 16 international quality symbols "Q". We are ready for leaving the works. For some moments we hear from far the noise of aggregates. In the air — a typical alcohol smell mixed with supplement aromas. On the way, the manager imparts the last informations. We learned that since 1947 the "Poznańskie Zakłady Przemysłu Spirytusowego" (Alcoholic Industry Works of Poznań) represent the sole works exporting the vodka abroad. There are produced 38 assortments of unflavoured vodkas and 93 assortments of flavoured vodkas in fancy packings, being sold to more than 60 countries all over the world.

F.K.



The red pepper flavoured  
export vodka.

This vodka appeared in our  
works only a few months ago.

Its recipe was elaborated on  
request of the French  
customers.

After having prepared  
the recipe, we started with  
its production being designed  
for export.



# Fruit wines —the offer of AGROS

Fruit wine-making is a new branch of the traditional wine industry. It develops in countries where viticulture is impracticable or difficult to carry on — on account of the climatic conditions, to which Poland also belongs.

The Polish fruit wine industry is developing quite fast due to a favourable source of raw materials. At present, its output already exceeds 200 mln litres yearly. Experts and specialists of the wine-making line know quite well, that it is much more difficult and differentiated to make wine from fruit than from grapes. A wide knowledge connected with the faculty to discern and classify fruit trees and bushes as well as the know-how are needed to produce fruit wine. For the fruit wine-making technology is connected with a much higher degree of equipping this industrial branch in machinery. This results, first of all, from a greater multiplicity of raw materials, from the necessity to adjust the wine

ture of fruit wines. An appropriate quantity of organic acid gives the wine a pleasant, refreshing, acidulous taste, which distinguishes fruit wine from other alcoholic beverages. Organic acids are also indispensable for the formation of the so-called wine bouquet. Worth while mentioning is that every wine brand has its specific bouquet. Vitamins and mineral compounds enclosed in the fruit juice are of great importance.

Fruit are a considerable source of vitamins, in particular vitamin C, A and vitamins of the B group. It might be worth while to mention that the content of vitamin B + B + PP in mg % present in Polish fruit used for wine production is much more advantageous than the content of these vitamins in grapes, which amounts to 0.30 mg %, whereas Polish cherries contain 0.51, plums 0.50, blackberry 0.48 and bilberry 0.41 mg %.

The high content of mineral components imparts alkaline qualities, of particular importance for the deacidification of the human body — and is recommended to persons suffering from hyperacidity of alimentary tract.

Polish fruit wines are a stimulating beverage owing to their alcoholic content and, when drinking, they give a great satisfaction and relish because of their refined savour and fragrance.

The Polish fruit wine industry produces mostly homogenous wines and also wines from two or more fruit juices. A multi-fruit blend is then obtained. The selection of suitable fruits and the quantities needed for wine production are one of the principal know-how secrets strictly guarded by the

composition and the selection of the proper kind of microflora and from the difficulty of the wine mixing procedure, arising from the mixing of various wines selected to obtain a right ratio for the required wine brands.

There is no need whatsoever to further explain, that the manufacturing of fruit wines is very complicated. It requires a speedy processing of fruit, permanent inspection and many technological manipulations and, besides machinery and installation, a large base of good raw materials.

Fruit wines are wholesome beverages. They are more wholesome than many other beverages, containing alcohol; neither are they second to grape wines in taste — moreover, in some cases they are even superior to the latter. Fruits contain various organic compounds; the following are the main among them: sugars, organic acids, fats, natural pigments, aromatic compounds, proteins, cellulose, vegetable tannins, various mineral salts and vitamins. The nutritive components of the fruit juice pass into the wine during the processing of fruit for wine-making purposes. The quantity and quality of the components depend on the raw material, which in turn depends on cultivation, climate and soil. The qualities of Polish fruit grown both in the orchards and forests are known all over the world. The wine industry, producing savoury and wholesome wines, avails itself of fruit of the highest savoury and nutritive qualities.

Seed-fruit, stone-fruit and berry fruit are used for the processing of Polish wines. Organic acids just as sugar are of great importance for the manufac-

respective producers. Different fruits have different colours, therefore, according to the colour, the fruit wines are classified as white wines — although their colours are from golden yellow to brown and red wines.

As depending on their alcohol content, fruit wines are light wines with a 10% alcohol content, medium ones — with a 10—14% alcohol content, and strong wines, containing more than 14% alcohol, whereas, they are dry (0—10 g/l), semi-dry (20—40 g/l), semi-sweet (45—65 g/l), sweet (80—100 g/l), and very sweet (over 120 g/l) wines as depending on the sugar content.

Wines having unchanging properties, deciding their high quality and produced only by one factory which is the owner of the given recipe, are called brand wines.

The Polish wine industry supplies brand wines for export only in retail packing. As a rule, brand wines have their names. For instance:

1. Gooseberry wine 2. Cherry wine 3. Blackberry wine 4. Herbs wine 5. Strawberry wine 6. Zbojnickie wine 7. Rycerskie wine and others.

Among the brand wines there are Vermouth type fruit wines steeped with aromatic herbal extracts. Other virtues of Polish fruit wines are that they have neither artificial alimentary components, nor dye-stuffs or scents. The whole ready product is made exclusively of natural vegetal components. The splendid bouquet, specific for every kind of wine, is obtained, among others, by long maturing. The maturing period for light wines is one year, and for heavy wines it lasts 3 years.



Here is concealed one of the many secrets of the high quality of Polish fruit wines and the fact that they are in demand among foreign customers.

Together with this information we wish to remind that the Foreign Trade Enterprise AGROS — Warszawa — Poland — ul. Żurawia 32/34 — is the exporter of these wines.

Inquiries and purchasing offers may be directed to the above-mentioned address. Z.G.

## WAWEL MEAD — FOR APPETITE AND HEALTH



Mead is the oldest wine type beverage. Honey wine was produced by Slavs long before the art of making wine by fruit pressing and spontaneous fermentation was practised.

Slavs who lived long ago on vast forest territories and fields covered with fragrant flowers relished the honey of wild bees. Honey was their regular nourishment. That is why they had the opportunity to discover its precious properties also in the form of a fermented beverage. Hence the art of making such a beverage become a tradition for times immemorial and the way of making honey wine passed over from generation to generation, becoming more and more universal. Thus the honey brewing art become one of the main domestic crafts. Professional mead breweries have been known in Polish lands as far back as the XIV th century. The known annalist Marcin Kromer, bishop of Warmia, wrote in 1577 in his geographical essay "Polonia": "Honey brewed with hops and water is in common use". Mead is obtained through alcoholic fermentation of honey wort prepared of linden and accacia honey, using proper blends of fruit musts instead of water. "Wawel" honey wine belongs to the triple mead group (Trójniak) of an alcohol content ranging from 12 to 15% and reducing sugars content (after in-



version) ranging from 65 to 120 g/l the content of sugarles sexttract not being smaller than 25 g/l. The general acidity of the "Wawel" mead expressed as malic acid ranges from 4 do 8 g/l. Must from apples, hog rose and blackthorn form the must basis of this mead, that is why "Wawel" mead, apart from its high quality savoury features, acquires high nutritive properties, owing to the increased content of vitamin C. Of great importance for the mead's nutritive value is also that it contains one third of natural honey.

Glucose contained in mead has an exceptionally favourable influence on the functioning of the man's heart and his nervous system. A considerably great amount of tannins, mainly of blackthorn must provenance, gives the "Wawel" mead a specific taste, which markedly activates the digestic system. "Wawel" mead is flavoured during the production process with aromatic herbs, among which dominate hops and sorb-tree. Thus created fragrant bouquet complements this excellent mead as a whole. Its processing recipe originates from the royal mead breweries of the Wawel royal castle, one of the old seats of Polish kings, hence the appellation "Wawel mead" — which AGROS recommends to his customers.





# JAMS- FRUITS IN SYRUP

*Robert Jurczakowski*

Fruit and vegetable preserves marked with the "Krakus" trade-mark are produced in several Polish factories. They are situated in the very centre of the source of raw materials. It is of great importance for the supply of fruit to the processing plant — for the products' quality depends on their freshness and good condition. It is the region of Kraków that is renowned for its vegetable cultivations and orchards of plum, apple, sweet and sour cherry-trees. Hence, the world famous plum



brandy "Sliwowica" is produced in the vicinity of Nowy-Sącz. Wines — about 200 mln litres yearly — meads, jams, fruits in syrup, tomato juice are produced in other scores of processing plants. To them belongs, among other things, the Tarnów branch of the Fruit and Vegetable Processing Plant at Kraków. Several decades ago, the existing factory belonged to the duke Sanguszko where beer, famous in the whole region had been produced, instead of jams and fruits in syrup now. Beer consumption was, however, too small. It was, therefore, not payable, especially that excellent beer sorts are produced by the Okocim and Żywiec breweries, situated in the Kraków region, too. Consequently, the Tarnów branch started to produce fruit wines, of so-called direct-maturing composition, free of any preserving substances. Apples are the main raw material for wine production. Apple must is also a component used in "conjuring up" the excellent "Podkarpacki" triple mead (Trójniak).

Hundreds of tons of this Old Polish beverage are sold abroad. Jams made from black currants, bilberries, raspberries and cherries found approval





of Swedish consumers. These jams are processed from selected raw material i.e. the best and most savoury ones. Yet, it is not the fruit by itself which accounts for the good taste, flavour and colour of the jam. Fruit for raw material is only the beginning. An adequate technology is necessary for continuing. It is precisely technology that Mr Aleksander Szmyd, the technologist of the Factory Laboratory, is speaking about. Do not believe that we are boasting — he told me — but the technological process of jams with a low sugar content has been worked out several years ago, for the first time in Poland, by Mr Władysław Komusiński and myself at our laboratory. Our jams contain 40—48 per cent general extract, so that they differ from the traditional jams, which contain about 63 per cent sugar. Thanks to it jams with a low-sugar content are wholesome and more savoury. They have a spreading consistency and must not be “cut” with a knife or laid with a spoon. Fruit assigned for jam production is boiled in vacuum apparatuses. The boiling procedure is therefore several times shorter than the traditional, home-boiling methods. This has obviously an effect on the jam

quality, for it maintains more vitamins and mineral salts. At present a method of colouring food and vegetable preserves prevails in some countries. It is done to lure the customers’ sight, evidently at the expense of the food product’s taste. We keep the principle that genuine food products are most wholesome. We do not colour our jams artificially, we do not use artificial preserving substances which when consumed for a longer period, might be, after all, noxious, especially for children.

Our laboratory cares for the wholesome and savoury value of our jams, says Mr Szmyd. The colour, taste and consistency are qualified by organoleptic tests, whereas the content of acids, sugars and other compounds are verified analytically.

Our laboratory is not the only checking sieve.

Products earmarked for export pass through an extremely meticulous and strict inspection of the Quality Inspection Office (CIS). The quality inspection is carried out by random selection just before the delivery. CIS has the right to suspend the delivery of the whole lot in case the tiniest quality deviation has been discovered. Our fruits in syrup,

cucumber preserves and “Trójniak Podkarpacki” mead pass an equally strict inspection.

We speak in turn with Mr Galenic, Factory Manager, about exports. Thanks to the high quality of our products, he says, they find a ready market in many foreign countries. Jams are packed in jars of 0.34 l capacity closed with twist-off type caps — fruits in syrup in 1 l jars. Regular customers of our products are such countries as: Sweden, France, Canada and Australia. Apart from jams, we deliver there mainly goosberries, plums and cherries in syrup. Cucumber preserves produced in our factory are also sent to the German Federal Republic.

*Robert Jurczakowski*

**In the future we intend to modernize our deliveries and to watch, as hitherto, over the high quality of our products.**



# Polish tobacco has the Lowest Nicotine Content

It is difficult to advertise tobacco at a time when almost the entire world has started a fight against it. It is true, that in this fight much common sense is shown and that, in addition to persuasion many attempts have been made to raise such a tobacco which will contain no nicotine and other harmful to the human health components or will have the least possible amount of them.

Such a tobacco is just grown in Poland and it is very highly valued by specialist abroad.

On Polish soils light "Flue Cured", dark "Air Cured" cigarette tobaccos and cigar tobaccos are cultivated. The largest areas under tobacco cultivation are in the provinces of Lublin, Kielce, Kraków, Rzeszów and Bydgoszcz. Tobacco plantators are mainly small farm owners who have at their disposal considerable reserves of man power, as the cultivation of this plant is exceptionally labour-consuming, especially under our climatic conditions in which the full period of vegetation of this plant is supplemented by the cultivation of seedlings under glass before planting them in the soil (one hectare of tobacco requires about 500 working days). The soil conditions and agrotechnics applied are conducive to cultivation in Poland of tobacco with a minimum percentage of nicotine as well as of harmful to the health components.

Cultivation of tobacco in Poland is supervised by the Union of the Tobacco Industry. Administratively tobacco cultivation is divided into districts, sub-districts and the latter into regions.

In regions are employed agrotechnicians — specialists in tobacco cultivation — who constantly cooperate with plantators in the line of kind of soil, fertilization, tobacco cultivation and protection, harvesting of leaves, drying and preparation for delivery to the industry.

In each district the Union of the Tobacco Industry has its fermentation plants, where fermentation is carried out under proper conditions and under the supervision of specialists.

After satisfying the demand on the home market any surplus Polish tobacco finds many buyers in numerous countries of various continents.

Our tobacco is exported through the intermediary of AGROS Foreign Trade Enterprise to the German Federal Republic, Sweden, Austria, the Netherlands, Switzerland, Belgium and many other countries of Europe and Africa. We export light and dark tobacco fermented by the Proctor-chamber method, in bales of about 35 kg weight wrapped in jute and light tobacco, processed by the redrying method in bales of about 75 kg; cigar tobacco in bales of about 100 kg.

In addition to the highly specialized Central Laboratory of the Tobacco Industry and factory research centres, some departments of academies and scientific institutes cooperate with the tobacco industry. The above mentioned institutions carry on research in the line of raising, cultivation, protection and processing technology of tobacco. Special stress is laid on the raising of tobacco with no or hardly any nicotine and other harmful to the health components.

W.O.







# WHERE EXCELLENT WAFERS ARE MADE

*Józef Korzeniowski*





On the roof of the factory building a Teddy bear is sitting with utmost composure, contentedly tucking in wafers. A Teddy bear with a wafer is the trade-mark of the "Olza" wafer factory at Cieszyn. "Olza" belongs to the few European factories specialising in wafer production. That is why their quality and taste took the numerous foreign customers' fancy.

The "Cieszyn Olza" belongs to the Śląskie Zakłady Przemysłu Cukierniczego at Siemianowice (Silesian Confectionery Industry Plants at Siemianowice). Four factories manufacturing various confectionery products belong to the Silesian Plants. But this time, it is "Olza" factory and its wafer production for export that is the subject of our interest. "Prince Polo" wafers occupy a leading place among the more than ten kinds of chocolate and filled wafers.

Mrs Maria Zamarska (the production chief) gives detailed information about the production cycle of savoury sweetmeats, as she shows us the factory. We pass from the dough to the processing stand of wafer sheet — the basis of the whole wafer — to the installations where the filling for the wafer is prepared. We observe how the filling is made, how the wafer is cut to various weights and then how it proceeds to the cooling line. The product is ready at last. Here, at the packing stand, we see the women adroitly packing the final product, for which the customers are waiting.

The whole manufacturing process does not require great physical effort. The factory is outfitted to a great extent with modern installations and automatic machines for wafer production. Hence it is accuracy, self-discipline and cleanness which are required from the factory girls. And as it is well known, women are not lacking in these features. The best part of the staff working here, dressed in gleaming white

uniforms, are young women, who are graduates of the factory trade school, where they learned both the theory and practice of wafer production.

Here lies among other things, the secret of the high quality and savoury taste of the wafers produced. More than 21,000 various wafer products, which may safely compete with products of renowned European firms, come out from under the hands of these women every day. We have spoken about the manufacturing process of these savoury wafers. It is worth while mentioning that the production includes different kinds of wafers and, as depending on the type, suitable flavours are prepared for the filling and coating of the wafer. The "Olza" factory at Cieszyn specializes mainly in production of uncoated and chocolate-coated wafers.

"Prince Polo", at present already renowned even in the literature of Iceland, enjoys the greatest popularity among chocolate wafers, for Iceland has been for many years a regular customer of these sweetmeats. The wafers are manufactured in two weight sizes, i.e. 50 g and 25 g each. The "Elite" layer cake of 1 oz (or 2 dkg, 8 g, 25 mgr) is also included among the chocolate wafers. "Olza" also produces chocolate wafers of six other flavours. They are dessert wafers: Alpine, Viennese, mocca, cocoanut and orange. The wafers weigh 35 g. The direct packing informs the consumer about the flavour and ingredients included in the product. Among the filled wafers one should mention here such titbits as orange, lemon, cream, chocolate and coffee. They weigh 20 g each.

Mr Zygmunt Badowski, the manager of the "Olza" Wafer Factory in Cieszyn, says that Iceland, which has been a regular customer of our products since 1953, gives the best evidence of the quality of our

products, for not even once did she raise a claim to any delivery, either as to its quality or inaccuracy. We are doing everything, we teach our staff good work and scrupulousness in order that our customers might be satisfied with our products. Testimony for our success are the exports, growing from year to year. Here are data for the last 5 years. In 1966 we exported 214.8 tons wafers, in 1967 — already 319.6 tons. The export figures for 1968 amounted already to 426 tons, in 1969 — 440.5 tons and in 1970 they attained 700 tons.

Sweden, Great Britain, Greece, the U.S.A., Canada, the African and Middle East countries are, besides Iceland, regular customers of Polish wafers made in the "Olza" factory at Cieszyn.

Mr Edward Wrażyna, assistant manager for technological matters, assures that the factory does the utmost so that the foreign customers would be fully satisfied with the signed contracts.

Of about 45 confectionery factories producing wafers, among other things, "Olza" belongs to the best; its products are awarded for their high quality at various home and foreign events. After all, as it has been already said, "Olza" has specialized in manufacturing filled and chocolate wafers of the highest quality. The factory laboratory doubtless contributes to the quality of the wafers produced. The following ingredients are necessary for wafer production: wheat flour, liquid and powdered milk, confectionery, fat, yolk, cocoa grain and powder for icing 7 various flavours. None of these raw materials is admitted to production unless a previous examination of their usability has been made. Qualified laboratory assistants also watch over the course of the whole manufacturing process until the export ready wafer is obtained. Then a certificate is delivered by the factory laboratory and the product is then checked by the Quality Inspection Office — CIS.

Here lies the next secret of the success of Polish wafers, headed by the "Prince Polo". Somebody said that Agros exports for the palate. Agros exports the best vodkas, food and vegetable preserves, fruit and honey wines all for the palate of the adults. Wafer exported by Agros are first of all for the palate of children and youth, and also for everybody.

J.K.

**All those who are interested in purchases may send their inquiries for offers to the address :**

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# AGROS



# *The Polish Meadow Mushroom Agaricus Campestris a Product of World Quality*

*Mirosława Durska*

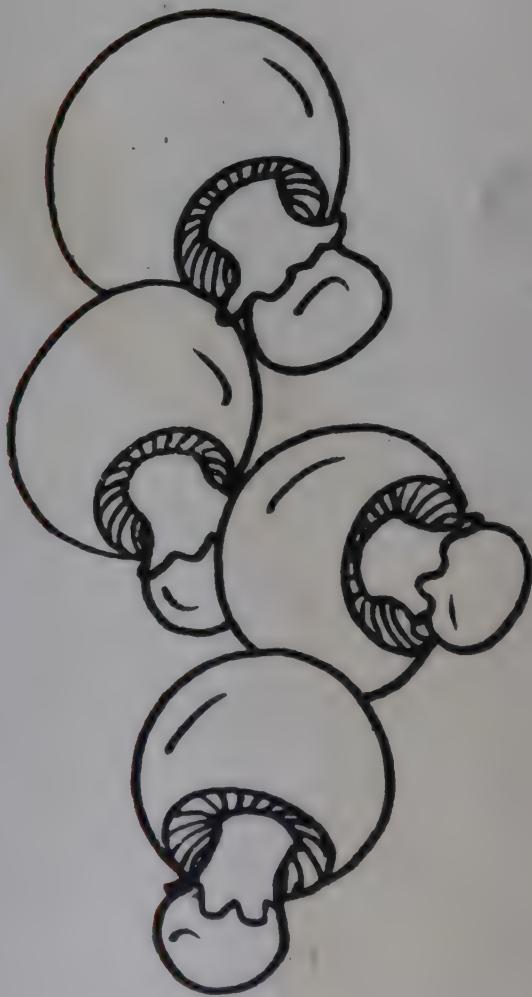
No one needs to be convinced of the outstanding values of meadow mushrooms as to taste and aroma, for it has won its popularity principally owing to these two features. Housekeepers think highly of it as a product that is easy to prepare in very diverse and varied forms, always decorating the table and being a titbit for gourmets.

On the other hand it is underestimated as a nutritive product rich in protein, fats, hydrocarbo-nates and mineral salts.

The cultivated meadow mushroom contains 51.9% protein, digestible in 88.5% (beef—83.7% protein, digestible in 98.9%), vitamins soluble in water such as vitamins C, B<sub>1</sub>, vitamin B<sub>2</sub> complex, vitamin H (of which very few of its adepts know), whereas it contains barely 1.8% fat in conversion to dry mass and mineral components, represented by the following elements: P, Ca, K, Cl, Na, Fe, Zn, Cu, Mn, Br, Ag, Ti, Rb and Co. Anylysing this short description of the nutritive values and contents of mineral salts, we see how very valuable the meadow mushroom is in Man's nutrition, not only from the biological, but also from the medicinal point of view. Its nutritive value is dependent above all on the substratum on which it is cultivated.

In this respect the Polish meadow mushroom is set up in one of the leading places in world production. The substratum on which the field mushroom is cultivated in Poland is composed principally of horse manure with a small additive of ammonium sulphate, chalk and gypsum, and owing to its sufficient content of nitrogen, chicken manure is additionally applied only in a very few cases.

The cultivation of the meadow mushroom—*Agaricus Campestris*—is a new domain in Poland. Its planned purchase and the beginning of its export, conducted by the Central office of Horticultural Cooperatives, occurred in 1953—1954. The present production amounts to 2,500 tons per year. At first it was conducted in a primitive manner, at present it has assumed the form of a modern cultivation, conducted in accommodations built especially for this purpose, equipped in central heating, mechanical ventilation, steam aggregates, etc. Worth stressing is the



fact that no chemical agent is used during the cultivational cycle outside of calcium hypochlorite—prophylactically and sporadically—Nogus 50 EC even if the harvesting period lasts about 90 days.

Polish producers set up about 2 cultivational cycles per year—in the Spring and Fall months. In principle, the meadow mushroom—*Agaricus Campestris*—is not cultivated in Poland during the summer owing to the high temperatures prevailing in the country and also because of the continuing competition of natural forest mushrooms on the domestic market such as *Boletus*, *Lactarius deliciosus*, chanterelles, *Boletus luteus*, honey fungus, *Cavallia Coralloides* etc.

The summer period is taken advantage of to carry out a thorough disinfection of the cultivating accommodations and the remaining auxiliary accommodations.

Supervision over the production is carried out by a group of professional experts, especially appointed for this purpose. Furthermore, the Institute of Market Gardening and Agricultural Colleges carry out scientific research work on the modernization of production methods, with their adaptation to the climatic conditions of our country, while maintaining the highest values as to taste and nutritive value of the product.

The principal centers for production of meadow mushrooms in the country are the Voivodeships of Warszawa, Łódź, Katowice, Kraków and Poznań. Almost all the producers are members of Horticultural Cooperatives, which conduct contract buying and purchases of the meadow mushrooms—*Agaricus Campestris*—throughout the country.

"Hortex"—an enterprise of the Central Horticultural Cooperatives, deals with the export of the meadow mushrooms, principally to Czechoslovakia, the German Democratic Republic, Australia and Sweden.

The purchase of meadow mushrooms in a fresh state and their export is so organized that no more than 24 hours pass from the time the meadow mushrooms are gathered by the producer and their supply to the store counter in the above-mentioned countries. This makes it possible for the housewife to purchase not only excellent meadow mushrooms as to their taste and nutritive value but also very fresh which, as regards their value, always surpass tinned-sterilized meadow mushrooms—*Agaricus Campestris*.



Professor Emil Chroboczek, Director of the Institute of Horticulture states that the most known and frequently cultivated "Wolska" onion variety has been produced at the farm of Jan Zajkowski near Warszawa in 1910—1912. The variety distinguishes itself by the round shape and dry, well adhering outer layer of a light golden colour, whereas the white rind is succulent and has a soft, slightly sweetish taste. The onion undergoes a drying process when still remaining in

the soil. Polish climatic conditions favour the process, which proceeds relatively slow, thus greatly helping the onion to eliminate the excessive amount of water. To the virtues of the variety belongs also that it is particularly fit for long storage — from autumn to spring yet, the onion does hardly ever transpire. The proper development of Polish onion production is connected with the extension of the cultivated acreage. It increased particularly after the farmers have been stimulated

by advantageous conditions to grow onions for export purposes. At present, the size of the area for onion cultivation amounts to 28,000 ha and the average crops, during the last five years, 320,000 tons yearly. At the same period, i.e. 1965—1970 an average of about 62,500 tons yearly has been exported.

The Polish onion cultivation has been properly regionalised. Onions are grown most in the Łódź, Warszawa, Bydgoszcz and Poznań regions.

"Hortex" — Foreign Trade Enterprise, being the only exporter of the products of the Union Horticultural Co-operatives, is the sole exporter of Polish onions. At present, "Hortex" exports onions to many countries, above all to the German Federal Republic, Great Britain, Italy, France, Czechoslovakia, Yugoslavia.

Japan became lately a new, significant market, which systematically develops imports of Polish onions. The transportation risk at high "keeping quality" is negligible, the deliveries of Polish onions to Thailand, where they arrive in very good conditions, bear witness to it.

Polish onions are exported in following sizes:

Picklers	— 25—35 mm
Drilling	— 35—50 mm
Medium	— 50—70 mm
Large	— above 70 mm

The bulk of the crops make onions of 35—50 mm and 50—70 mm in diameter. These are the assortments offered for export. Delivery time lasts from September to March inclusive.

It should be emphasized, that the resistance of the onions to long storage results from the excellent quality of the "Wolska" variety and not from the influence of chemicals most commonly applied by countries exporting onions.

The Polish "Wolska" variety onion suits also for processing purposes because it contains a high proportion of dry substance.

High quality, way of preparation, selection by hand, excellent packing are the essential qualities accounting for that Polish onions are in demand on many foreign markets.

Cyprian Masalski

# WOLSKA

## HORTEX





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# SUNDRIES

## Enzymatic Preparations for Analytical Purposes

In practical biochemical and analytical chemistry there are more and more applied the various enzymatic preparations. One of groups contains the amylase preparations of plant and micro-biological origin of various degree of cleanness and activity. Within year 1968—1969 "Zakład Mikrobiologii Technicznej Biochemii Instytutu Przemysłu Fermentacyjnego" (Technical Microbiology and Biochemistry Department of Fermentation Industry Institute) had elaborated and mastered the process of obtaining the three biochemical preparations (belonging to amylase preparations group) as the chemical reagents, namely diastase from malt,  $\alpha$ -amylase from barley and  $\alpha$ -amylase of *Saccharomyces cerevisiae* type). The obtained preparations are standardized according to catalogue requirements up to diastase activity—1000/Lintner/g,  $\alpha$ -amylase—2000 Lintner/g and  $\alpha$ -amylase from *Aspergillus oryzae* 300 units SKB/g.

The biochemical preparations—diastase from malt and  $\alpha$ -amylase from barley for analytical purposes—were obtained in "Instytut Przemysłu Fermentacyjnego" (IPF), (Institute of Fermentation Industry), while the production of  $\alpha$ -amylase preparations is started in the Union of Fruit and Vegetable Industry at Jasło. All preparations correspond to general requirements concerning the chemical composition and activity, and are nearing to analogical foreign preparations.

## Machinery of New Generation

Poznańska Fabryka Maszyn Żniwnych (Harvesting Machinery Works at Poznań) has recently started with production of the long-awaited by agriculture, field chaff cutters—a machine having advantages of a green mowing aggregate and simplicity and reliability of usual mowing machine. The above machine is designed for grass and various green fodders, as well as, while applying a proper process, for grain crops. The machine has been tested under various field conditions and become highly rated by numerous research institutes estimating the agricultural equipment, among others by Experimental Institute at Klódzisko.

Application of the above modern equipment together with the pick-up press of FMR at Kunów production enables a strong crushing of the green fodder into briquets, thus rendering the possibility of a complete liberation of traditional hay-mowings. This is due to the fact that at favourable weather conditions these machines allow for the grass cropping within one day, thus not only considerably simplifying the green crops, but also lowering the losses of valuable food-components by 60—80 percent. Application of the above modern equipment facilitates the choice of the harvest term, thus ensuring high quality of the hay cropped at lower labour costs.

Both machines belong to the new generation of equipment being adapted for co-operation with the middle and high power tractors. The field chaff cutter is the first one out of various versions of machines of this type, which, depending on necessity, will be in future adapted also for crops of maize, straw after combine, etc. There is also foreseen the production of self-propelled machines being driven by the engine based on licence granted by Leyland.

At the moment when the modern equipment will appear on our fields in a more considerable quantity, many hindrances presently troubling the rapid feed crop harvest, indispensable for the breeding development will disappear.

## Scientific Research of Great Importance

In the nearest future the rank of scientific and new techniques researches will continuously rise, as being the basic stimulus of economic and social development. Expenses for this purpose in four years will reach 2.5 percent of the national income, and will be more than twice as high as in 1970.

The development trends of researches within years 1971—1975 ensure intensification of work in all branches of basic, technical and of practical application researches.

Within years 1971—1975 the funds designed for science and technical progress development will be concentrated for solving the crucial problems being strictly connected with the assumptions of economic plan. Thus the scientific researches, as well as development work, should result in optimal expansion and all-round utilization of home raw materials, as well as fuel and energetic bases. The work is also aiming to introduce the structural alterations into production resulting from a wider application of new designs and processes.

There will be privileged the development of such industrial fields and branches whose activity has a decisive significance for settling the needs of population and home economics.

Application of principles of the new scientific politics, as well as distribution of financial resources being connected with this, should contribute to a wider and more rapid realization of inventions. A special attention will be paid to the improvement of man's natural environment.

During discussions being carried out amidst the scientists, apprehensions were sometimes uttered concerning the destiny of scientific disciplines, as well as of basic researches, whose results give no immediate practical application; such apprehensions however are groundless owing to the fact that the decisions having been accepted enable a wide further development of basic researches contributing to new scientific discoveries.

Within years 1971—1975 almost one third of financial resources is designed for realization of 69 crucial problems of nation-wide importance. Amidst these problems the most

important ones are those connected with raw materials utilization, as well as with any other materials and with energetics problems. The trend of intensifying the structural alterations in our economy consisting in the processing development, influenced the decision of allocation of considerable resources for modernization as well as rising the production quality. This concerns the parts and units of machines and arrangements, as well as means and methods of their production, measuring apparatus and instruments working machines, containerisation and palletization.

In the research and development programme for years 1971—1975 a special stress is put on scientific and technical problems connected with settlement of basic needs and working conditions of population.

To the problems of higher importance belong also the agricultural production intensification, as well as increase of assortment and foodstuff quality improvement.

## The Most Effective Methods are the Biochemical Ones

Pest as well as plant-diseases devastate, a considerable part of crops. The losses may be estimated within 10 to 20 percent of global crops. More damageable plants such as turnip, sugar beet, potato, tobacco-plant, hop, certain vegetables and fruits are sometimes devastated within 50 percent and even more, in the case when protective measures are neglected.

Prevention of diseases and pest is in the modern agrotechnics one of the most effective methods of the crops increase.

These problems are studied by "Instytut Ochrony Roślin" (Plants Protection Institute) and researches are carried out for methods of better and more effective protection.

Beside artificial fertilization, the general protection of crops makes a principle operation, enabling the obtaining of such crops which a few decades ago were not dreamed of. Owing to effectiveness of various preparations, their application is widened to such a degree that the biologists now apprehend that this fact might result in troubling the natural balance. In the same way the physicians, biochemists, scientists studying the nutrition problems express the fear whether the urging towards the agricultural crops abundance would not negatively influence some other aspects of the problem i.e. such ones as accidental influence of preparations exercised on surroundings and the living organisms therein.

These critical opinions resulted in continuously widening consideration of these aspects while researching the various methods of the plants protection. Thus for example the DDT and its derivatives are lastly eliminated, and the method of the operations carrying out was established in such a way that at the moment of carrying out the harvest no traces of the used preparations should remain on crops.

The general application of the plant-protective preparations disposes

many naturalists and biologists to propagation of a complete recess from the above method, ergo—to a voluntary resignation from the most effective weapon, which unfortunately cannot be, up to the present, replaced by any other one. Meanwhile the crops protection is absolutely indispensable, but it is advisable to apply the chemicals in a reasonable and skilful manner and combining this with other methods.

The crops may be protected by means of various methods, without exaggerated application of chemicals whose decay products might harmfully affect the soil and the micro-organisms living there-in. Beside the chemicals, the farmer has to his disposal the agro-technical methods, modern toughening breeding methods, often unconsciously used since thousands of years are based on crop rotation and mechanical cultivation. Through ploughing, the soil is exposed to the sun and frost action, simultaneously giving nutrition to birds by exposing insect caterpillars or eggs and mushrooms spores attacking the crops. Through changing the plant being cultivated on a given field surface, we deprive the insects and pathogenic bacteria of highly appreciated elements.

As a means against the plant diseases especially effective is the cultivating method consisting of a resistibility selection, thus introducing to cultivation the resistible varieties. The Plant Cultivation Institute, Vegetable Institute, as well as numerous individual researchers have brought-

in here a considerable contribution, by giving to disposal of our agricultural practices the new varieties of corn, root crops, industrial crops, vegetables being resistant against diseases being till recently highly dangerous and caused by fungi or viruses.

At last it is possible, as it has place in the USA, to treat (e.g. in national parks) the trees, and decorative shrubs with anti-biotics through direct injections.

Young quicksets of trees, fruitshrubs and flowers may be sterilized (as in France) by keeping them for some time in elevated temperature. It is also possible to cultivate in laboratory the whole plants (pinks, dahlias) out of scarcely some cells taken from a virus-free small bundle.

Ecology—the science treating the relations between organisms and their environment—offers to the farmer's disposal many allies as birds, predatory animals and insects destroying the pest and vermins. By creating for their development the favourable conditions we would limit the pest and vermins quantity. The Orchard Institute is carrying out the trials of orchards protection with the aid of insect alder bucket-horn derstroying the fruit pests. Ants, ladybirds, heteropters are destroying the plant-louse, devour the Colorado beetle. At the bulk operation of the pests natural enemies we are talking about the surroundings resistance and small invasion danger. At last the micro-biology offers to farmers a number of bacteria respectively their artificially extracted toxins having a multi-fold effects on pests as compared with chemical preparations.

A skilful utilization of these resources being to-day rich already, combination of chemical and biological methods, assiduous selection or opera-



itional terms, all these means enable to prevent effectively the damage, not causing thereat the harmful incidental effects. The pests, being assaulted in a term fixed by the Plants Protection Station are perishing in large amounts. It is clear however that we shall not renounce from chemical methods before better methods are invented.

## Sausages Produced by a New Method

A group of employees of the Meat Plant of Katowice worked out an interesting form for the production of sausage without a skin. The sausage is made in a metal mould, a kind of tube, which is immersed in boiling water for several minutes. The sausage is chilled rapidly to a minus temperature after this steaming process. In consequence of these processes, the sausage is compact and hard on the surface and can be cut well even on a mechanical cutter. This manner of production will make the process of sausage production considerably more efficient. The production of moulds from special metal alloys has obtained a patent and is protected as an industrial secret.

## Specialists are working up a Design for Fishing Nets

A group of specialists — engineers, working in the scientific research center of the Enterprise for Deep-sea Fishery and Fishery Services "Odra" of Świnoujście, have been entrusted with the solution of the problem connected with the construction of a net for deep sea fishery. The specialists, whose work we are describing, have had great experience in fishing, they also know the fishing grounds and the species of fish caught by our deep-sea fishing fleet. Thus they construct the nets, giving them the right shape and dimensions of meshes. The success that the "Odra" Enterprise has achieved in their fishing catches should be attributed in a large measure to the specialists in net construction. The "Odra" constructors of the nets can boast of the most modern solutions as regards pelagic nets for B-23 and B-18 units. They serve for deep fishing. Ships that catch fish with this kind of nets obtain fishing yields that are 15% higher. The 110-degree trawl for trawler B-23, the use of which brought great savings and also the 30-degree herring trawl, which has been registered at the Polish Patent Office are also the work of the "Odra" specialists.

## For the Protection of Hulls of Fishing Vessels

All the Polish merchant and fishing vessels, especially those which catch fish on distant fishing grounds, are already equipped with installations that protect the hulls against corrosion. These installations were designed

and worked out by the Maritime Institute of Gdańsk. Their authors are Ludwik Bliszowski and Janusz Oltaszewski. Worth stressing that this is the first time the cathode-coating method was used so universally on a world scale for the protection of ship hulls against the destructive action of corrosion.

## Sugar an Aid in the Foundry

Investigations are carried out at the Foundry Department of the Technical University of Szczecin on the effect of various additives to moulding mixes on the facility of shaping moulds, then removing the mixes from the ready elements. Sugar manifested in these investigations surprisingly advantageous properties. A minimal addition of it enables to clean the castings easily, which considerably facilitates and accelerates the work.

## Important Saltworks Center

The Polish archaeologists, drawing data from excavations, established that Kolobrzeg as a mediaeval city of the Piast times has developed very rapidly economically because it had a direct connection with Poland. Precisely fish and salt were carried by boat from Kolobrzeg. Hence this city became a sea fishing base and also an important and principal saltworks centre (salt was sent from Kolobrzeg even to Russia) and a center for tooling amber. The conclusions can be drawn from the data provided by historians that the first Polish Products sailed through Kolobrzeg primarily to Scandinavian countries. Hence the mediaeval city of Kolobrzeg, as archaeologists say, became the first and largest mediaeval overseas outlet of Poland of the Piasts.

## Already in the 13th Century

There was a foreign trade in timber already in the 13th century. Timber was floated down the Vistula to Gdańsk from various regions of Poland, principally from Mazovia and Podlasie, lying on the Narew and Bug Rivers.

## Green Gold

Green gold is hops, an irreplaceable component in the production of beer. It is cultivated in our country on an area of 2500 hectares. Over 70% of the hop plantations are on the areas of the Voivodship of Lublin, the greatest supplier of "green gold". In order to meet the growing demand both in Poland and for export, modern plantations, conforming to the requirements of contemporary farming technics, will be set up within the proximate 5 years. Mechanical nursery work can be

carried out on them and crops can be harvested by using the new combine of Polish production. Worth noting that over 1200 hectares of new plantations will be established during this time. At the same time the old hop-gardens exploited will be done away with.

## "Hortex" Export

The Foreign Trade Enterprise "Hortex" has increased its foreign trade turnover 16 times in the 13 years of its activities. At present "Hortex" exports fresh, frozen and processed Polish horticultural products to 50 world countries. Last year a total of 222 thousand tons were exported and this year export plans reach 240 thousand tons of fruit, vegetables and processed products. Onions must be mentioned as one of the major export items. The English, Swedes and Germans from the German Federal Republic buy onions from us. Recently our ship, loaded with onions, sailed to Chile. Frozen strawberries and raspberries are appreciated on the markets of USA and Canada, Sweden, Norway and many other countries. Early potatoes are an important export item — we sell them to Czechoslovakia and other countries. Hothouse radishes, lettuce, forced rhubarb, flowers and meadow mushrooms (Agaricus) are among the new "Hortex" crops exported. The "Hortex" Enterprise draws up long term contracts with processing plants of West European countries for the supply of horticultural crops, which will enable not only to stabilize export plants but will also develop the production of the right kinds of cultivations in the country. "Hortex" is also an importer of fresh fruit and vegetables, enriching the domestic market in such articles as watermelon, tomatoes, peaches, apricots, grapes, etc.

## Swine and Cattle Breeding in 1971—1975

One of the basic tasks for the coming years facing agriculture is to ensure such a development of animal breeding that the supplies of pork pigs should rise, at the end of the current five year plan, by about 30 per cent, cattle by about 22—25 per cent and milk by 24—28 per cent in comparison with 1970. Such a growth of animal production will ensure an increase in consumption and exports of meat. The assurance of such an increase in animal production will be a difficult task, requiring prompt and fundamental improvement of productive and economic conditions. Both the representative census of animal stock, carried out in December 1970, and the high prices of piglets maintained for many months of 1971 and the increased covering of sows show that the swine stock has begun to recover its previous level. Larger supplies of slaughter animals have already begun in the III and IV quarters of 1971. The growth of animal stock up to 1975 assumed in the draft of animal production plan prepared by the

Ministry of Agriculture and approved by the Government, is rather strident, yet realizable, since it is anticipated that a rise in stock in 1971—1975 by about 3—3.5 mln pigs will be achieved. This task will require the application of many solutions and far-reaching steps guaranteeing the fulfillment of prospects.

The conditions necessary for attaining a substantial growth in the production of both swine and cattle stock have been formulated in the animal production development plan. The assurance of the profitability of swine and cattle breeding is mentioned as one of the fundamental conditions.

The decisions, taken by the State to raise the purchasing prices of slaughter animals and milk ensure that swine and cattle breeding will be profitable.

The State intervention purchases will play an important part in keeping the profitability of piglet production. An excessive supply of piglets is expected to occur within a few months as a result of the rapid development of sow breeding.

The introduction of long-term contracts, guaranteeing premiums to farmers for deliveries of porkers corresponding to certain standards will play an important part in overcoming the fluctuations in supply of slaughter animals.

Planned increase of animal stock signifies an average annual increase of 251,000—291,000 heads in comparison with the annual rise of about 180,000 attained in 1966—1970.

The changes brought lately into practice in cereal contracting principally and also in the reduction in the level of cereal purchases will also foster planned development of animal production.

The fodder balance draft for 1971—1975 ensures the necessary quota concentrated feeding stuffs at the State's disposal and simultaneously provides for a progressive withdrawal of controlled fodder sales. This will bring about a development of pig breeding among small producers who have insufficient amounts of their own fodder. The increment of fodder rates for the contracted pigs in provinces where the farms have an undersized area structure and large resources of man power, will also contribute to an improvement of production conditions for the development of pig breeding.

The assumed increase in animal stock will also require an extended supply to the farms of installations for the mechanization, adaptation and modernization of the existing inventory buildings.

In general, it may be stated, though the planned tasks as regards animal production development are difficult, they are nevertheless realizable. The decisions of an economic-productive nature taken by the Government, as well as the actualization of the improvement of the conditions for the pig and cattle breeding development stipulated by the plan should fully guarantee the accomplishment of the animal production planned in the current five-year plan. The implementation of the animal production development plan 1971—1975 will enable an extension of exports to the traditional markets where Polish meat and its preserves have been purchased for many years.





## POLISH HORSES IN BERLIN

West Berlin, just as the West-Berlin market, is lively interested in horsemanship, and consequently in the import of Polish riding horses.

More than 10 equestrian clubs, such as: Reit-sportschule, Onkel Toms Hutte, Reit — und Springschule Deutschlandshalle GmbH, Reit-schule Pichelsberg, Reitgemeinschaft Berlin e.v., Berliner Reitjagd-Club e.v., Reitverein der Berliner Studenten e.v., with a total of more than 1,300 horses, create excellent recreation conditions not only for grown-ups, but also for the development of the equestrian sport among young people, so very popular in the West.

In view of numerous international competitions organized by the International Equestrian Federation, West-Berlin proffers an excellent place for the display of our horses. The fact, that sportsmen living there purchase increasingly more Polish horses, bears witness to it.

The real beginning of the export of Polish horses to West Berlin dates from somewhat less than a year (the purchases of 3 horses in 1966 was of a purely symbolic nature). 19 horses were delivered last year, in the current year already — 23, among which the Wielkopolska and Anglo-Arab breeds prevailed.

The display organized on the 5th May 1971 was the first direct contact of some importance of the Berlin equestrians with our horses, breeders and exporters. The "Animex" enterprise had the opportunity to show Polish horses to outstanding admirers in the Berlin Reitshule Onkel Toms Hutte K.G. The rather numerous assembly at the show (about 700 persons) testifies to the exceptionally great interest in Polish horses. The show was attended by representatives of the press, of equestrian circles, representatives of West-Berlin Authorities with the President of the Chamber of Trade and industry — senator Dr Konig, Vice-President Dr Braun, director for Agricultural-and-Food Products Affairs of the Senate Dr Hoferecht, Senator for Youth and Sport mr Kochrt, science



representatives professors Winzer and Kirchstein from Freie Universitat Berlin — Tierklinik, the Chairman of the Olympic Committee for horsemanship Mr Schulte von Linde, representatives of the Polish People's Republic Military Mission with charge d'affaires Kulski. Representatives of the French Military Mission, who were also present, declared during the show that they were interested in contracting Polish horses (purchases were made during the May auction sale in Łąck — Poland.)

In general, the show was a success, and its programme embraced:

— the presentation of horses bought in Poland, bred at training establishments and club studs (Poznań — Wola Rzeczna, Łąck, Białka n/Lublin, Klub Sportowy Łódź); and a show-breaking-in and obstacle jumps (140 cm high)

— a spectacle — among other things, a quadrille executed by horsewomen in Polish national colours

— a film show "Horses of the Wielkopolska race" connected with a lecture by A. Sosnowski a well known Polish breeder, on Polish horse breeding, horsemanship and export achievements. It is worth mentioning that the film was awarded a bronze medal during the film show, organized within the frame of Grune Woche; a reception with a traditional glass of wine was not omitted. Note, that all the guests remained until the end of the whole programme. They liked the jump and breaking-in display very much. The youth showed a particular high level of riding and jumping. The youngest entrant (an 11 year old girl) took 130 cm high obstacles on her stallion. On the eve of the event, the West-Berlin television transmitted during the evening news (7.40 p.m.) a commentary (in colour) on the show of breaking-in of Polish horses at the Reitschule Onkel Toms Hutte with a very interesting comment on the subject of the high level of Polish breeding and on the triumphs achieved by Polish horses at international races. Besides of the reports on the coming event, the Berlin press also wrote about the possibilities of purchasing horses in Poland. The event and the ensuing negotiations carried on by our delegation, were accompanied by a very pleasant atmosphere, such as prevails at sportive rallies, and this was expressed by the quadrille executed by our girls dressed in Polish national colours. The management of Deutschlandhalle, where sport events take place every January and May, reiterated their last year's invitation to present an attractive show as the "Cracow Wedding", during the "Grune Woche" Fair.

As a result of the Berlin meeting we received 18 Berliners, who bought some 20 horses of relatively high sportive rank, at the May auction sale in Łąck (May 18 and 19).

Boleslaw Gendaj



**FOOD**

*from Poland*

Review of Exports of Agricultural Products and Foodstuffs

No 1(43)





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### Our cover:

"Bacchus birth" — an arras-tapestry (gobelin) from the collections of the National Museum in Poznań. It was woven in Brussels about 1700, probably in the workshop of Jakub van de Borghst according to a cartoon by a painter from Antwerp, Louis van Schoor (1666—1726) who made it after Nicolas Poussin's painting with the same caption as the arras. Size 288 x 267 cm. The tapestry lacks a rim. The arras belongs to the series "Mythological scenes" according to Ovid's "Metamorphoses". It represents a scene on the background of a hill overgrown with vine and a thick wood where Mercury confides the little Bacchus to the nymphs care who are to educate him. The figures are gathered around a table with fruit baskets and a jug of wine. Vivid colours prevail: wine reds, rust and cinnabar hues, sapphire, bronze and musty green shades.

The arras tapestry was included in the collections in 1949

The photo was taken from the original by Gustaw Ross

# The achievements of science in the food industry



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In the export publicity of Polish food products it was customary to refer to the exceptionally favourable climatic conditions and to the natural character of breeding methods and fodder. All this is true and unquestionably contributes to the high quality of exported products of agricultural provenience.

These factors, undoubtedly, have been and still are at present and will be in the future of great importance for the maintenance of the savour and quality values of Polish food products. Owing to these factors the exports are, as before, in great demand and enjoy popularity with foreign customers, in spite of the transformation of Polish economy — Poland formally an agricultural country has become an industrial-and-agricultural one. Certainly, traditions are of great importance here — the old and good traditions which concern both the outstanding qualitative values of food articles and the customs accepted in solid and business-like trade, in complying with contracts signed by Polish exporters as to the delivery terms and quality, which is of no minor importance for foreign customers. But what is the secret of export successes of Polish agricultural and food products nowadays?

It should be ascertained that the answer to this question is contained in the slogan: — tradition and modernity. The slogan "Tradition and Modernity" found its real expression in the endeavours to keep pace with the scientific development in recent years, with technique and technology in the domain of cultivation, breeding and processing of agricultural and food products. It should be added that Poland has a particularly privileged position which consists of tradition in agricultural production and of propitious conditions to develop this economy branch. Nowadays, we observe in the exports of Polish agricultural and food products apart, two new factors.

The first is the refinement of traditional goods, the second one — the introduction of a variety of novelties to the export of agricultural and food products.

The Polish processing industry as well as agriculture itself which supplies the raw material basis for the industry



owe the accomplishment of the two above factors to the development of science. The contemporary agrotechnical and zootechnical scientific achievements have attained a high level in Poland thus, a special science branch arose, in order to assist the processing of agricultural and food products.

A wide network of agricultural schools technical schools and Colleges are training highly skilled personnel of medium and high grade to work in this line of economy i.e. in production and distribution. The Vth Department of the Polish Academy of Sciences has taken over the care for this continually developing branch of science — both in the line of education and practice.

Farms are the basic source of supplies of raw materials for the production and processing of agricultural and food products. Even a type of agriculture which maintains the most natural character, can't develop nowadays without the participation and assistance of scientists. In Poland this problem has been solved in a way to enable theoretical scientific solutions to be applied in practice by producers. Polish agricultural scientific-and-technical centres have been divided into two groups according to the functions carried out. One, a centrally run group, with the task of elaborating various solutions for the whole agriculture, while the second group is at the disposal of the regional agricultural administration. The task of this group is to ensure the fast and efficient introduction into practice and generalization of the achievements of science.

The main part in the domain of initiation of progress is carried out by institutes of scientific research. There are 12 such institutes with 67 experimental stations at their disposal. Apart from this, an important part in the central base for scientific investigation play such centres as: the Institute of Cultivation, Fertilization and Science of Soils, which runs 79 regional experimental stations; the Central Laboratory of Agricultural Production and the Office for the Study and Designing of Agricultural Building.

A number of scientific achievements utilized in industry have been attained with the assistance of agricultural



colleges or of establishment of the Polish Academy of Sciences. As an example one should mention research work on the methods to estimate the wholesomeness of seed-potatoes, the elaboration of a milk-substitute blend "Mlekopan" for calves and other animals carried out by the Agricultural College in Poznań.

The supply of a number of new varieties of fertile cereals for agriculture, the elaboration of their agricultural technique and methods of protection, made possible to considerably increase the crops, in particular of bread cereals, was another achievement of the scientific workers and of cultivators.

A great success was the introduction of new varieties of the Damazy spring barley which has outstanding brewing features and the Lubuski and Gryf varieties, for general use. A valuable contribution to agriculture was the elaboration of a complex technology for the cultivation of rape and winter turnip. The degree of rational soil fertilization is of no minor importance for the intensification of agricultural production. Special attention deserves the contribution of agricultural science in the working out the amounts and assortment of mineral fertilizers required by agriculture.

In Poland there also are scientific institutes which almost daily work on problems concerning the processing of agricultural and food products, and nourishment. The Institute of Horticulture, the Institute of Fermentation Industry, the Food and Nutrition Institute should be mentioned here.

The whole agricultural and food production and processing is based on Polish Standards. The regulations of Polish Standards are based on the most recent achievements in world science. In some cases they even surpass foreign standards. They are very strict, make great demand from cultivators, breeders and producers alike. That is why Polish agricultural and food products exported abroad are in great demand and enjoy the full confidence of consumers.

Polish science embraces within its range everything connected with the production of agricultural and food articles. Poland has world-famous

specialists, whose names are highly respected. In order not to tire, we will mention but a few representatives from various domains belonging to this branch of theory and practice.

Professor Antoni Rutkowski, who is well-known in the world of science, is a specialist in the domain of food and nutrition. Professor Dr. Felicjan Dęmbiński is an outstanding scientist and a specialist in the field of research and cultivation of oleaginous plants. Professor Dr. Wincenty Peżacki is engaged in problems of meat industry. An outstanding specialist in the field of horticulture is Professor Dr. Szczepan Pieniążek. Professor Dr. Eugeniusz Pijanowski works on problems of dairy technology in Poland. There are many of them in Poland. They are in charge of chairs in Colleges, where they educate specialists and experts of respective branches of science connected with agriculture and processing. They frequently are in contact with processing plants where they check their knowledge in practice. They are known in the world by their personal participation in various international scientific congresses and symposia, where they readily contribute to the work on hand. They are renowned for their works published in many periodicals the world over and for the translations into foreign languages of their scientific works.

Many of them have been awarded by the Government with State prizes as a token of recognition and full backing of their useful activity. We have introduced some of them to our Readers in the columns of our periodical.

The network of agrotechnicians and zootechnicians operating directly on plantations and stockfarms of individual farms is of great importance for animal breeding and agriculture, and thus for raw materials for the processing of food products. Competent training and personal inspection are the tasks of these most outstanding promoters of agricultural science and progress. The localization of processing works in the vicinity of production bases also exerts an influence on the raw materialsd remaining fresh and intact to the time of their processing. This enables to manufacture highquality products from these raw materials.

J.K.

# Agricultural and food industry problems at the 6th Congress of Polish Technical Experts



In September 1971 was held in Poznań the Sixth Congress of Polish Technical Experts associated within the Chief Technical Organization (NOT) uniting all Scientific and Technical Societies of Engineers and Technicians representing all Poland's industries and scientific research centres.

A large group of foreign engineers also took part in the proceedings of the VI-th Congress. These included specialists from: the USA — 11 persons, Great Britain — 8 persons, Czechoslovakia — 7 persons, the Netherlands — 2 persons, Sweden — 1 person, with Canada, Brazil, Venezuela, Belgium, Italy and Switzerland having 1 representative each.

The debates proceeded in 13 problem sections. Agricultural and the food industry problems together with those pertaining to alimentation of people were dealt with by Section X which incidentally, had gathered by far the largest number of participants, over 400 delegates in fact. At the root of this there lay the natural recognition that one cannot think in terms of developing the national economy without having adequately developed agriculture and food industry as well as proper alimentation of the populations. These considerations were most aptly revealed by the decisions taken by the Polish government to redevelop the food industry and its backing. The food industry is to meet the ever-growing demand for high quality foodstuffs and make them available in a very wide range and to keep the market equilibrium at the considerably increased purchasing power of the population and developing exports of agricultural and food produce. Particular significance is thus gained by the introduction of new solutions and ideas to the food industry by its specialistic cadres in order to meet the current and future requirements of agriculture, food industry and the home and international trade.

Five years ago the V-th Congress of Polish Technical Experts considered food industry problems concerned with intensifying the national economy and questions pertaining to processing agricultural and food products. A large number of postulates to be realised had been agreed upon and carried through in 95 per cent. A discussion of those postulates will make it possible to better appreciate the basic ideas and principles promulgated by the VI-th Congress.

In the line of developing intensive varieties of cereals, potatoes and other plants, four new varieties of wheat, one of spring barley, one of rye (two others being now under cultivation) were obtained in addition to three new varieties of potatoes with a much increased content of dry mass and albumin. Seven new polyploid varieties of sugar beet and four of mangels are now harvested. In the cultivation of new, valuable varieties of vegetables, four heterozygous varieties of cucumbers were developed with new varieties of onions, early and late cabbages, greenhouse and field cucumbers due to be available soon.

Also introduced were new varieties of plants better meeting the requirements of agricultural and food industry processing (some of the cultivation work is still under way), such as rape, potatoes for semi-preserves and final products, tomatoes, cucumbers,

onions, kales, Brussels sprouts, strawberries, currants, etc.

2. To limit the harmful to man's and animals' health, use of chemical plant protection agents special safe cycles were introduced along with the elimination of a group of chemicals featuring cumulative poisonous properties (e.g. DDT) when protecting vegetables, fruit trees and bushes, field plants and sugar beet.

3. The production of fodder was modernised, improved and increased. Among others, greatly increased was the production of silage, the use of industrial mash for feeding swine, poultry and young cattle, the production of rich mash having been started.

4. Intensive work on raising better breeds of livestock was carried out.

5. Further concentration of market gardening production in fixed bases and regions was attained thanks to the efforts of mainly such bodies as the Central Horticultural Cooperatives (CSO) and the Union of the Fruit and Vegetable Industry (ZPOW).

6. A considerable increase of the fruit-growing production was attained, as witnessed by the much increased number of fruit trees and sizes of crops. Periodicity of crops was eliminated in many regions of Poland. There was a considerable growth of the production and quality of fruit, and especially of the seedy winter varieties. The falling off production of sour cherries still presented some anxiety.

7. The use of irrigation was extended by some 20,000 hectares, the transport and spraying of lime and ammonia water having been mechanized. Modernisation of existing draining equipment over an area of 43,000 hectares should also be emphasised.

8. Exports of gardening produce went up by some 82 per cent as compared with the 1965 level, the improvement of exports deserving due mention.

9. The improvement of the quality of raw materials of animal-origin was successfully attained through, among other, thing more efficient handling of the cattle fit for slaughter which is raised for meat production in ever-increasing quantities. A mention is also deserved by the improvement of the quality of milk and modernisation of its processing. Production capacity of the dairy industry was greatly increased by erecting new processing plants and modernising process machinery and equipment, as well as by setting up plants processing milk albumin. The programme of modernizing the quality of products and refining production methods is being realised in a successive manner. Recently, for instance, there appeared on the market: powdered fruits in sealed plastic bags and jars with Twist-Off caps, vegetable-and-fruit tins and vegetable-and-meat tins for children; various pomace juices (fruit and mixed fruit-and-vegetable juices); full milk in powder; frozen luncheon dishes; food concentrates, etc. Particularly to be emphasized is the constant improvement in the quality of foodstuffs being supplied onto the market, a fact manifested by the granting of the high quality signs to 840 different food products.

10. The first stage of concentrating research work on practical problems was completed. This is exemplified by the constant practical testing of the suitability of new solutions developed by scien-

tists. In the period considered, 16 new experimental stations were set up in the food industry alongside with special teams staffed by research and production workers and authors of given solutions, the said teams being called into being to fulfil the most important tasks.

11. The Institute of Food and Feeding was founded in response to a motion postulating joint and coordinated work on attaining the best quality of food and diversification of people's diet and, last but not least, on cutting the losses of nutrient properties of foodstuffs upon processing. The newly-founded Institute pursues the following main directions of work:

- determination of the directions of rational feeding and promotion of correct feeding, taking into account the improvement of technology and production of food.

- economic research in the field of feeding people. The Ministry of the Food Industry also sponsors a programme aimed at refining the production of foodstuffs and based on the introduction of products featuring a much higher degree of processing, enriched with vitamins of vitaminizes and albumin-containing additives, etc. This refinement programme has contributed to the starting up of the so-called special production comprising foodstuffs for sick people afflicted with diabetes, or liver diseases, and for convalescents, energy-giving foods, dietetic foodstuffs, etc.

It is obvious, however, that the outlined most important postulates of the V-th Congress of Polish Technical Experts is but a recollection of the vast modernisation and creative work done in a relatively short period of time both in the processing industry and agriculture and industries cooperating with the former two sectors in the field of the supply of raw materials.

And today, Polish engineers and technicians will be faced with an equally trying work. Tasks to be realised in the current five-year plan by agriculture and the food industry have been set out in the resolution upheld by Section X. There are many paragraphs to this effect and it would be futile to attempt to even generally outline them in this article, and we are consequently reduced to emphasising the more important problems. These comprise the following questions:

- gearing up the agriculture to the requirements and demands of the food industry, its main customer. This will create a process of mutual integration of those two sectors which in turn will lead to the regionalization of agricultural production and its specialisation in order to simplify the entire organisation of production. Specialisation of farms is expected to facilitate progress in the widespread use of new methods and equipment capable of yielding high production efficiency and quality.

- continuing the further extensive development of agriculture.

This is connected with the problem of attaining better harvests, and especially of cereals and potatoes, and increasing the production of fodder which should be paralleled by the development of meat production.





— raising the pace of growth of the production of foodstuffs, which is essential owing to the constantly growing home demand and the development of exports of agricultural and food produce.

This is intimately connected with developing modern fruit-growing and market-gardening industries by setting up specialistic farms as well as by applying the accelerated and retarded production cycles. The share of foodstuffs processed by the food industry is to grow both as regards the home and export demands. This, in turn, will increase the role of the food industry in the agricultural produce economy sector. The main tasks of the agricultural and food industries can thus be seen to consist in constant modernisation of its products, raising the quality of products and better utilization of raw materials supplied by the gardening, fruit-growing and agricultural sectors.

— further raising of the progress of science and technology and the skills of the cadres of engineers and technicians, which is a guarantee of the constant and correct development of both agriculture and food industry. The importance of an organisation constituting a bridge between science and practice thus begins to be felt. Consequently one of the main aims of activities of scientific and technical societies of the Chief Technical Organization (NOT) is to raise the qualifications of the entire cadre of engineers and technicians who must keep abreast of the latest advances of applied science and technology.

— speeding up the pace of development of the production capacity of the food industry by further modernization of old plants and erection of new ones. The optimum use is to be made of financial resources being allotted recently in increasing amounts. Modernization of the existing fishing fleet and building of new fishing and auxiliary fleets and conditions for the fullest possible utilization of the fish caught.

— a much extended application of various research techniques to improve the quality of production, preserve the desired, standard quality levels and nutritive value of foodstuffs, and to accelerate the introduction of the latest scientific advances to the food industry.

— introduction of modern packings as a significant means of raising the quality and quantity of products of the food industry earmarked both for the home and export markets.

The past years of activities of the Chief Technical Organization have shown conclusively that the contribution of hundreds of thousands of nameless engineers and technicians, inventors and rationalizers to the introduction of the latest scientific achievements to everyday agricultural and food processing practice has been enormous.

New tasks postulated by the VI-th Congress of Polish Technical Experts will most certainly pave the way for the Polish agricultural and food industry science to acquire a permanent and leading position in the world.





## Congress of Polish Fruit- Growers at Skierniewice

The 14th jubilee fruit-growers, congress lasting two-days took place at Skierniewice in September 1971 on the occasion of the twentieth anniversary of the activities of the Institute of Horticulture.

The congress was inaugurated by professor dr. S. Pieniżek. Director of the Institute of Horticulture at Skierniewice one of the most outstanding specialists in this domain in Europe. After the inauguration, Mr. A. Kacala, Vice-Minister at the Ministry of Agriculture, decorated persons of outstanding merit in horticulture with decorations bestowed upon them by the State Council of Poland. Professor Dr. Z. Borecki, professor Dr. S. Zagaja and Mr. P. Dolbiński were awarded the companionship of the „Polonia Restituta” Cross.

Professor Dr. S. Pieniżek delivered an extensive report of the activity of the Institute of Horticulture at Skierniewice emphasizing the necessity to extend scientific researches, necessary for a rational production of fruit in Poland. Experiments supported by practice proved that fruit production is most profitable in large orchards: of more than six hectares on individual farms and in State farms on an area of 100 to 200 hectares.



*In the photos:*

1. Mrs. Christian Nowak — agrotechnician, demonstrates a shapely sheaf of wheat of „Nowy Ród” M. 449 variety. „Nowy Ród” proved to be the best in 1970 among the 25 varieties examined.
2. Photograph shows the pollination of potato blossoms.
3. Pollinated inflorescence ripen here under a curtain of gauze.
4. Mrs. Regina Janiczko, Agricultural engineer, presents the Readers with new high-yielding varieties of Polish oats.





# Polish exporters of agricultural products and foodstuffs on the offensive

Leon Gadziemski

(Side notes to the programme of the performances of Polish foreign trade enterprises at fairs and exhibitions abroad in 1972).

**It is tradition, quality virtues and attractiveness of presentation that count**

There are no secrets in the career of exports of Polish agricultural products and food articles.

Rich and deeply rooted traditions, exceptionally favourable geo-climatic conditions, natural fodder, original recipes, careful production and a strict system of control — are the basic principles lying at the source of this success. In sum, these values ensure a high quality product with unique virtues of taste. If to these we add many visually ingenuous and functional packings and convenient commercial terms — then the matter of the recognition of and interest in Poland's export of agricultural products and foodstuffs on the world market becomes in a natural way self-evident.

In such a situation the point raised in the title of this article about the 1972 offensive in the promotion of Polish exports of agricultural products and foodstuffs may seem incomprehensible.

Nothing of the kind! The developing in Poland agricultural-and-foodstuffs industry, puts on the market and introduces into export a number of production novelties. Many traditional goods are further improved. Laboratories and pattern-shops work on the raising of the standard of the design and utility of packings, and therefore of the commercial attractiveness in the presentation of the Polish product, etc.

Moreover, the truth and the resulting conclusions, that the European alimentary market

for years now is a buyer's market, and therefore the exporter must create the most favourable conditions for the potential importer, among other things, by the bringing of his offer as close as possible to the prospective buyer.

Throughout the world a rapid evolution of the current way of life, with its so vital for the present day changes in the structure of consumption, is observed. Thus these phenomena and a number of additional factors force serious exporters of food to closely watch the situation, analyze the changes and constant activity on the market.

**Direction of the offensive — determines the choice of appropriate markets**

Though exports of Polish of agricultural products and food articles embrace more than 60 countries, the programme of active promotion of these exports, mainly through participation in fairs and exhibitions abroad, is concentrated in 1972 primarily on selected markets.

Among these are markets of great importance to the realization of the Polish economic plans, primarily such markets of Western Europe as: of the German Federal Republic, Great Britain, France, Italy, Scandinavia (Sweden, Finland), Benelux, Austria and Spain.







Of socialist country markets of particular interest to Polish agricultural and food exports are the markets of the German Democratic Republic, Czechoslovakia, the Soviet Union and also of Hungary and Yugoslavia.

Already the main directions of Polish interest mentioned point to highly developed countries (of overseas countries: the United States and Canada), with very high requirements of commerce itself and of the local consumers. The general standard of these markets and their commercial attractiveness focuses the interest and attention of all the most important exporters of food on these markets. Thus also Poland's export encounters here very strong competition and exceptional commercial activity.

### Specialistic international fairs — the most effective means of food promotion

Even a superficial analysis of the character of fair-and-exhibitive events in which Polish foreign trade enterprises are showing interest for the year 1972, explicitly point to specialistic fairs. It truly can be claimed that there is no alimentary international event of major importance in Europe without the participation of AGROS, ROLIMPEX, ANIMEX, POLCOOP, HORTEX and RYBEX, namely of all the Polish exporters and importers of food.

These enterprises (or some of them depending on the line of their activities and resulting interest in a given market) will appear in 1972 at INKOFIE in Munich, "GrüneWoche" in West Berlin, "Saarmesse" at Saarbrücken, Ideal Home in London, Food Cookery and Catering Exhibition in Manchester, Scotland's Food Exhibition in Glasgow, International Food and Agriculture in Montreal, "Feira del Campo" in Madrid, "Interrest" in Gothenburg, SIAL in Paris, "Roha" in Utrecht, "Inter Frucht" in Prague, at international agricultural and food fairs and exhibitions in Verona, Novi Sad (Yugoslavia, Jönköping Sweden), Padua (Italy) and Lausanne.

Obviously, there will be also stands of Polish exporters of food in Polish pavilions at universal international fairs in Vienna, Leipzig, Brussels, at St. Erik Mässan in Stockholm, Budapest, Zagreb, Milan, Brno and in Helsinki, as well as at the Economic Exhibition in Kiev.

### Character of the Polish food offer in 1972

To emphasize the traditional presence and importance of Polish agricultural products and food articles on a defined market; the majority of offers of Polish enterprises — will be in 1972 of a comprehensive character. But even in these composite

offers, the point of gravity will be placed on those assortments which, traditionally, at present or in perspective, define the extent of interest and importance of Polish food exports in appropriate directions. Generally, the overall Polish offer embraces: fresh, deep frozen and processed fruits and vegetables, alcoholic beverages, confectioneries, meat, fish and poultry products and preserves, seeds, tobacco, forest fruit, home fruit, fish, poultry, flowers, slaughter cattle, rabbit carcasses, horses and so on. At other events (either due to the specialistic confinement of the character of the invent itself, or because of the limitation of the Polish interest) mainly will be exhibited only some assortments, e.g. in Lausanne — saddle and sport horses, at Novi Sad — seeds, in Verona — medicinal herbs and brewery raw materials, at SIAL — among other articles, fish offals for pharmaceutical purposes, Padua — cattle exhibition, and so on.

Due to the fact that food articles today are not sold solely on the basis of commercial packages and technological parameters, Polish exporters will enrich their appearances in 1972 with a wide range of concomitant operations, and primarily with fair sales (retail) and various forms of direct (on the spot) testing.

Moreover, professional information provided on the spot by the best Polish experts, the possibility of direct, on the spot, negotiations of the terms with Polish businessmen and the hospitality of the Polish organizers — create in Polish pavilions and at stands a favourable climate for the realization of mutually profitable agreements and deals.





# *P*olish game







We approached recently the director of the Supervised Forests and Game Shooting Department of the Ministry of Forestry and Timber Industry, Engineer Kazimierz Iwanowski, M.Sc. with a request for an interview on Polish game.

*Mr. Director, what animals are rated in Poland as game?*

According to Polish law all animals living in a wild state free in forests fields meadows, in lakes, rivers and the mountains are the property of the State. We are interested only in these which provide man with meat, furs, leather, fats etc. — these we rate, conventionally, as game. To this group also some vermin may be included. By game shooting, on the other hand, we understand not only the pleasure the huntsman has in shooting and the advantages involved, but also the planned management of game in agreement with the requirements of the national economy.

*Who in Poland supervises and cares for game?*

The highest authority of Polish game shooting is the Minister of Forestry and Timber Industry. He is assisted by an advisory and consultative organ — the State Game Shooting Council. The game shooting administration in the country is carried out by agricultural and forestry affairs departments of provincial and district national councils with-





hin which are game commissions. Game management is carried on grounds covering 93 per cent of the country's total area. This area is divided into 5,148 hunting districts of which 381 have been designated as breeding centres.

*What game is found in those districts?*

In the language of hunters game is divided into big game and small game. In the first group a further division is recognized: de-

ers and boars. Deers include: elks, stags, fallow-deers and roe-deers. Small game forms a large family which includes: muskrats, martens, mouflons, polecats, squirrels, hares, rabbits, bustards, wood grouse, black grouse, hazel grouse, pheas-

sants, partridges, quails, grey, hezons, wood cocks, double snipe, snipe, long-bills, corncrakes, ruffs, wild wild geese, wild ducks, field fares and missel-thrushes. Many hunters also consider as game vermin such as, for example, wolves, lynxes, wildcats, goshawks, and other animals and birds. The dangers of hunting these animals and the difficulties in shooting them give tremendous satisfaction to the most excellent and bravest hunters.

Some game due to their decreasing numbers, are now preserved. Among other game: aurochs, bears, chamois, marmots, beavers, quail, storks, hazel grouse, bustards, black herons, budgers, mouflons, tawny owls and other animals and birds are preserved.

In principle the entire Polish animal population is under constant care and protection — some of them are preserved throughout the year others during defined months during the year. Due to this system we have restored to Poland's fauna the completely exterminated as a result of hostilities during the years 1949—1945 aurochs and the greatly decimated — tasty pheasants. Pheasants are shot in Poland since many years and towards the end of 1971 to carry out a selection in the already numerous herd of aurochs, probably a reduction shot will be carried out. This auroch shoot will be the greatest attraction in the line of hunting of our times. That is why it is to be expected that in the shoot the most famous hunters will participate.

To end with I would like to say that shooting in Poland, the forcing of one's







way through forests, wading through natural meadows and marshes, waiting in riverside rushes — are unforgettable moments. Who once saw a tooting wood grouse or blackcock, who once watched rutting stags will remember this as long as he lives.

It is generally known that the tooting season is during early spring — in March or April and the rutting season towards the end of September or during the first fortnight of October. The shooting seasons of much other game is during the glorious Polish autumn or beautiful winters.

Interview by Wl. Oryl





# Polish horses for export

Zdzisław Brylski

**Poland, whose stock of horses has for many years now maintained at a level of more than two and a half million head is one of the world's largest exporter of horses. In this article, however, we shall not deal with the largest group of horses as to their quantity and value, with slaughter horses, but we shall attempt at treating the problem of steeds reaping laurels at home hippodromes and abroad.**

Studhorses which form the breeding of a given race and affect its improvement and evolution should by no means be omitted. Mention should be made also of horses making up in respect of quantity the largest group used for the popularization of the horseriding sport, the so called saddle and riding-school horses.

"ANIMEX" Foreign Trade Enterprise, Warszawa, ul. Puławska 14, handles the whole Polish horse export.

The horse suppliers are: state-owned studs, stables, horse-riding clubs and obviously, individual breeders covering the basic part of supplies, as they own more than 90 per cent of the horses.

We shall endeavour to treat in an condensed as possible form individual horse groups describing briefly their characteristic features.

## I. SPORT HORSES

These are horses trained for competitions and are supplied by studs, state stallion depots and horse-riding clubs with a good tradition.

a) **Hunter type Horses** — also supplied by state-owned studs, state stallion depots and some horse-riding clubs. They differ from horses of the previous group by being trained primarily as saddle horses, specialized in obstacle jumping. Both groups mentioned have some features combined and alternately present, thus a horse trained for horse show jumping can be used after a relatively short time, as a saddle horse. Likewise, a hunter type horse can rather quickly become a horse for show jumping. Owing to the enormous range of their abilities, horses of this class highly differ in value, beginning from a thousand to tens of thousands dollars for a horse of the international class. (Fans of the horse riding sport know "specimens" whose value goes up to hundreds of thousands dollars. Unfortunately Polish horse exports have so far not obtained such a record in this class of horses).

## II. STUDHORSES

Among studhorses exported from Poland prevail pure-blood Arabs known all over the world as the best, with pedigrees going as far back as 150 years and more. If, moreover, we add to this the successes scored in recent years on the "Sambora" or "Algorab" race-courses in the USA







and the sale at an auction in the USA of the beautiful stallion "Nabor" for 150,000 dollars, which was bought in Poland seven years earlier, — we may look forward to further interest in these types of horses. We also expect that Polish bred Arabs will win such European markets as the Federal Republic of Germany, Sweden or Holland. The interest of stud horses of the Wielkopolska and Anglo-Arab breed has augmented considerably, too.

The stallion "Patron" has won the championship for young stallions on licence at Krefeld (the Federal Republic of Germany); the stallions "Cietrzew", "Wersal", "Hajduk" and "Cenzor" sold at the end of 1970 to Denmark — won four first and second places of stallions on licence.

### III. RIDING-SCHOOL and SADDLE-HORSES

This is quantitatively the most numerous group of Polish horses exported; they are assigned to riding-schools. Horses of this type suit various kinds of riding-schools, which are springing up like the proverbial mushrooms after rain, and as saddle-horses for individual customers. Finally, we ought to mention the places and methods of selling our saddle, riding-school, sport and breeding horses.

Auctions organized by "ANIMEX" Foreign Trade Enterprise with the participation of home suppliers, are the basic form of selling saddle, sport and breeding horses. The auctions are organized following a system already accepted by traditional customers. So, saddle-horses are demonstrated in groups, then they are inspected and individually mounted by customers. On the second auction day, horses with more than one bidder come under the hammer. The most important auction foreseen for 1972 are listed below: 1) every year in March auctions are held in Poznań, where, first of all, horses from the Poznań region, i.e. of the Wielkopolska breed are presented. Saddle-type horses, sport remounts or horses being in the initial sport training stage, in preparation for L class competitions, may be found here.

Next comes the auction organized, in particular, for horses from Central and Southern Poland studs and horse-riding clubs; the auction is held annually in March at Łąck, about 110 km from Warsaw. Some 150 horses are presented during each of those auctions lasting two days.

At this type of sales organization one must not lose one's time to go hundreds of kilometers in order to find one or several horses; there during two days one can get acquainted with the type of horses we have at our disposal and select for oneself or one's customers the appropriate material.



For instance, during the recent auction at Łąck we sold more than 90 per cent of the material presented.

The next auction (not yet with such a tradition as the mentioned ones) is organized since two years in June at Janów Podlaski; this is an auction of pure-blood Arab horses. A continually growing number of breeders from the USA, Sweden, Denmark and other countries come to this cradle of Polish Arabs, where horses from another Polish Arab stud located at Michałów are presented as well.

The organizing on turn of October of auctions accompanied by St. Hubert hunting races has already become a tradition. Previously it was held at Starogard, now it takes place at Sopot, the town of festivals of international light-music songs. On the second day of the auction, about fifty horses and riders, among them also our customers, participate in a fox hunt. The remaining guests watch the hunting sitting in coaches or in their own cars. The event ends, as tradition commands, with Polish bigos (stewed cabbage with various meats and mushrooms) and with a glass of Polish Wyborowa Vodka. At auctions of this type 40 to 70 importers and breeders from many countries of all over the world participate.

Below we present a calendar of auctions planned for 1972:

- |                          |   |
|--------------------------|---|
| 1) February 29 — March 1 | Poznań Wola   |
| 2) May 16—17             | Łąck  |
| 3) October 18—19         | Sopot   |
| 4) September 19—20       | Wrocław   |
| 5) October 23—25         | Warszawa Służewiec  |
|                          | sale of thoroughbreds   |
| 6) June — CSIO           | Olsztyn   |
|                          | sport horses (during jumping competitions at the time fixed by the Polish Riding Union) |
| 7) auction of Arabs      | Janów Podlaski at a date fixed for the auction  |

Polish horses equipped with "passports", i.e. pedigree books, are at present used by breeders, trainers and riders in the USA; they are widely known in the whole of Scandinavia, namely in Sweden, Norway and Denmark and in Finland. They are exported to Switzerland, the Federal Republic of Germany, France, Austria, Italy, Great Britain, Belgium and Holland. They are known in the Soviet Union, the German Democratic Republic, Czechoslovakia and in Hungary. They even found their way to the UAR, Libya, Lebanon, Canada and India.

Poland is a member of the Board of the World Arabian Horses Organization, created at the congress of Arab horse breeders held last year.

We presume that our horses will reach every place where horses live. A live horse, next to the mechanical one, will be in ever growing demand.

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The first pure blood Arab true stud was set up in Poland by King Zygmunt August as early as in the XVI-th Century. Later there were more of them but all of them disappeared without trace during the vicissitudes of our history. The beginning of the present breeding of Arab horses in Poland was given by the studs set up in the early XIX-th century by Prince Hieronim Sanguszko and Count Juliusz Dzieduszycki who imported from Arabia many most magnificent mares and stallions. It is from those studs that today the cream of pure blood Arab world breeding traces back its origin. During World War II the Germans took into Germany the Polish studs — partly with the grooms. This later made possible, their comparatively early — though not in full numbers — return. The horses which returned after the war served as the pedigree material for the revival of pure blood breeding.

The first book about horses in Poland was published as early as in 1630. It was written by Krzysztof Dorohostojski. However, the first mention of horses in Polish literature we find in Długosz's Annals (XV-th Century). He mentions the stallion "Białonóżka", who was stolen from Prince Przybysław at Koniusza Góra, near Kraków. This horse was abducted to Hungary. The stallion, however, ran away and returned on his own to his master.

The first Polish painter to portret horses was an artillery officer named Klejn, who lived in the early XVII-th Century. Poetry about horses and dedicated to horses was written by such renowned poets as W. Syrokomla, W. Pol, A. Malczewski, T. Lenartowicz and K. Tetmajer. There are no fewer than 683 Polish proverbs and sayings concerning horses — among them many complimentary ones, as, for example: "As strong as a horse".

The deeply rooted among Poles love of horses dates back to the most ancient times. The Polans were the only tribe, which raised the horse to the rank of deity. They worshiped white horses, which they considered as oracles — the rap of their hoof often in those days decided on peace or war...





# Warszawa's Derby



Among numerous entertainments taking place every year in Warszawa, Horse Racing at Służewiec plays a not unimportant part for Varsovian's May we recall their history on Warsaw grounds.

20 June' 1841 ,may be recognized as the birthday of horse racing. On that day the Polish Kingdom's Administration Council set up the Society for Horse Racing and allotted the western part of the Mokotów Fields, situated at that time far outside the town, for the race-course (nowadays situated at the outlet of Wawelska Street and Niepodległości Avenue).

Nineteen horses ran in the first race. From the moment of the inauguration of the season four races run on every Sunday. The full bloom of the Society for Horse Racing and the initiation of the totalizer occurred as far back as 1880. At that time, the in Warsaw popular personage, count August Zamoyski, nicknamed by Varsovians "Count Guccio", became Chairman of the Society for Horse Racing. He used to drive to the races in a two-decker wagonette, drawn by four white horses in the midst of residents riding on saddle horses. He drove in the wagonette past the racecourse's fences and standing in the carriage next to track watched the races.

Horse-racing was at that time a snobbish entertainment of rich people, a display of gorgeous lady's dresses, a place of reciprocal flaunting and "flirtation" as people used to say at that time. Crowds of bystanders, occupying ordinary places for which they paid 15 copecks, observed both the races and the mighties in their magnificent carriages.

The climax of the spring racing season was the

day of this Derby' which was founded in Great Britain by the Earl of Derby in 1870.

In that Warszawa of the XIX-th century the Derby Day was called the day of the Tsar Prize.

The totalizer introduced in 1880 was in the beginning a game for the wealthiest owners of racing stables and breeders of horses. With time the public at large began to take part in it. This happened in 1886 — six years after its introduction in Warszawa and after the first removal of the races to another place. They had been held far out in the Mokotów Fields until 1886 only, when it was decided that the place is too far-away from the town and therefore it was removed at the same field, but with the entry from Polna Street.

The races changed their place once more when they were moved to Służewiec in June 1939.

The course was reconstructed after World War II and, as connoisseurs say, it is one of the most modern racecourses of the capitals throughout the world.

The former racing customs of Warszawa were connected with a practice of parades of carriages. After the closure of the races, the coachowners went for a drive to Aleje Ujazdowskie (Ujazdowskie Avenue), Łazienki Park and then out of town to Macelin (now the Dolny Mokotów district) or to Wilanów for a whole night's party. Supper were given there and people danced till dawn. Breakfast was taken in the historic Inn at Wierzbno on the way back.

Warszawa races have been often described in Polish novels. The most famous is, of course, the description of racing scenes in the novel "Lalka" (The Doll) by Prus. Also poetry has been written about the races.



## WORLD DOMESTIC ANIMAL POPULATION

At the beginning of this year the world stock of cattle amounted to 1,212 million head, of pigs—615 million head, of sheep—1,037 million head. During the past year the domestic animal population increased by nearly 14 million head of cattle, more than 43 million pigs and 11 million sheep. In overseas countries the biggest percentage increase in breeding livestock was noted in the United States, Canada, Brazil (pigs) and Australia (cattle and sheep). In Western Europe, especially in European Common Market countries, the cattle population decreased (in ECM countries by 700,000 head). Eastern Europe countries, in this respect, were successful—the number of head of cattle rose by 3,8 million, that of pigs—by nearly 16 million and that of sheep—by seven million.



*The 10 zloty coin in the picture was minted in the summer of 1971 as a sign of recognition of the great international role played by FAO the specialized in the field of feeding and food organization of the United Nations.*



# FAO

# “Cheddar” cheese from Chorzele

Marian Kaszyński

Every country has a specific, larger or smaller assortment of dairy products, produced in various quantitative relations.

Poland cannot compare with France, for example, as regards the quantities of kinds of cheese produced, none the less besides cheese of native origin, it produces and masters the production of new assortments.

Such a cheese of „foreign derivation” is Cheddar, whose native country is Great Britain (it took its name from the town of Cheddar).

In spite of the fact that the production tradition of this cheese does not reach back as far as that of „Tilsit” cheese, Polish Cheddar has won consumers not only in this country, but, which is no less important, also abroad.

This cheese has found buyers in a number of countries but the most valued is the appreciation that this Polish Cheddar cheese has found in the country from which it is derived, that is Great Britain.

Cheese is undoubtedly a product from among the dairy articles which has the longest tradition. At the same time, in order to obtain a cheese of high qualitative values, especially savouriness, not only good raw products must be used, modern technology, ideal hygiene in production, but above all observing the reproducibility of the technological process, which cannot be attained without proper experience of the persons working in its production.

The District Dairy Cooperative of Chorzele — the largest producer of Cheddar



ar cheese in Poland — has fully mastered all the secrets of production of this cheese and owing to the experience of the staff systematically attains cheese of world standard.

The Dairy Cooperative of Chorzele is situated on the northern outskirts of the Voivodship of Warsaw, on lowlands, rich in meadows and pastures, hence in a region that is especially favorable to cattle breeding, particularly dairy cows.

I watched the production process of Cheddar cheese, in the company of Kazimierz Przedpelski, manager of the District Dairy Cooperative in Chorzele. Perfect cleanliness and order prevail everywhere.

M. K. — All the machines and equipment, which I see here, look excellent.

Mr. K. Przedpelski — They are bought from the best specialized producers, for example, the set of appliances for the production of Cheddar Cheese was bought at Charles Wells, Ltd. — Somerset, the English firm.

M. K. — Isn't good milk the foundation of success?

K. P. — The neighbourhood is a typically agricultural region. The plant is modern, so are the appliances, hence it is no wonder that the farmers wanted to keep pace with the requirements set them as regards the quality of the milk supplied.

There are no reservations as to the quality of milk produced by the farmers here.

M. K. — What is the most essential in the production of Cheddar cheese?

Nr. K. Przedpelski — There are many factors, but if we omit those which are typical for the dairy processing in general (hygiene, proper pasteurization of milk, a good souring of dairy cultures, etc.) then one can say that success in the production of Cheddar cheese is decided by a precise observation of the technological process as regards temperatures, duration of each of the operations (one must work with the eye on the clock), supervision of the cheddarization process

being of particular importance (analysis of the acidity of the whey rate at which the whey flows off, etc).

M. K. What crowns the work of art?

K. Przedpelski — Well pressed cheese mix, owing to which technological fissures in the cheese pomace are eliminated and the right packing of the cheese — pukka film. Then only maturing and consumption.

M. K. — What are the attributes of Cheddar Cheese?

K. Przedpelski — For the consumer it is a savoury chesse, of a characteristic taste and smell, of high nutritive value owing its content of the biologically most valuable protein and milk fat, and also mineral salts (much calcium) and vitamins (principally A and B groups). For the producer, and especially for the distributor — it is a durable cheese since it is fit for a year of storage, and even longer, convenient in transportation (light and hermetically packed) and finally, it is economical in storage owing to the possibility of storing it in high stacks and box pallettes especially cheese of rectangular shape, and such is the shape of Polish Cheddar.

Fundamental parameters of Polish Cheddar cheese:

Dimensions:

length	36 cm
width	28 cm
height	16 cm

Weight of 1 cheese amounts to 18.5 kg  
Chemical composition:

Fat content in	48%
Water content no more than	39%
Salt content no more than	2.2%





# Poland's participation in the international

*Dr. Franciszek Morawski*

The past decade has witnessed a considerable development in the field of international standardization work. The world trade in agricultural products, and foodstuffs in particular, is gradually becoming more and more influenced by international standardization schemes. And that is why Poland, an important food producer in her own right and its active exporter and importer, should be so much interested in the direction, development and results of those standardization efforts. Such a considerable and unprecedented development of international standardization work is due to the highly specific situation of the food production and trade sectors have found themselves in today.

Although the world food production does not meet the evergrowing demand — and here we must take into account world's overall requirements, including such traditionally undernourished regions as those of the Far East — it is such regions as those of Europe and North America, traditional standard-setters in the food trade, that have large surplus stocks of various food products. Without examining whether that fact is due to over production, high stock level or the dominance of supply over demand, the markets of those countries are fully saturated, and a fierce competition struggle is going on to enter them. It is quite natural that such a situation should bring much higher requirements as to the quality of food products on the part of its importers. The last decade has also seen a considerable progress made in agricultural production and food technology. These new and, on the whole, most favourable developments from the point of view of the increase of overall food production and its quality, unperishability and variety, have brought in their wake some highly undesirable effects that are harmful to the fact that the ever-increasing use of chemical agents in agriculture to increase crops, e.g. of artificial fertilizers, or to protect crops from pests (pesticides), as well as the use of such technological aids in the agricultural products processing sector as various food additives, preservatives, antioxidants, and food colours, has resulted in finding ever-growing amounts of various harmful residues and contaminants in the food. Health hazards due to the widespread use of

agricultural chemicals have become a common and grim reality in the world.

This situation has stimulated the rapid development of work on international food standardization. The aims of these international standardization efforts are highly diversified, depending on the scope and tasks of a given organisation. There are, however, common aims which account for the universal interest in all aspects of standardization work displayed on the part of countries actively participating in the world food trade. Poland's participation in standardization work was chiefly due to those considerations.

The situation existing on the world food markets has been marked by the development of a large number of individual, national standards. Consequently, food exporters, depending on the general geographical direction of their exports, a given country or even individual customers, have been meeting in the importing countries with an exceedingly large number of various, and more often than not, entirely contradictory rules and regulations as well as of sometimes discriminating regulations and requirements.

This jungle of rules proved something of a bulwark blocking the development of international exchange. And thus, one of the main aims of the international standardization drive has been the general wish of establishing common standards of regional or worldwide validity, that would unify the existing regulations. Far-reaching unification of regulations to which individual exporters must conform, constitutes an extremely significant trade promotion factor that strongly stimulates the development of trade exchange.

The prevalence of supply over demand in countries concentrating most of world's food trade, and the fierce competition struggle going on today, have induced certain exporters to resort to unfair trade practices. These can be exemplified by the use of labelling that is misleading to the consumer.

One of the main tasks to be fulfilled by international standards is the abolishment of those unfair practices, so as to ensure that the consumer shall be fully informed as to the nature and

composition of the given food product after reading the label and, above all, that the food product in question shall fully conform to the specification given on the label.

The important part played by international standards consists in the determination of food quality standards to be adhered to in international trade. In view of the mass use of various chemicals in foodstuffs, it is essential that tolerances be fixed for the content of pesticide residues, food additives and contaminants.

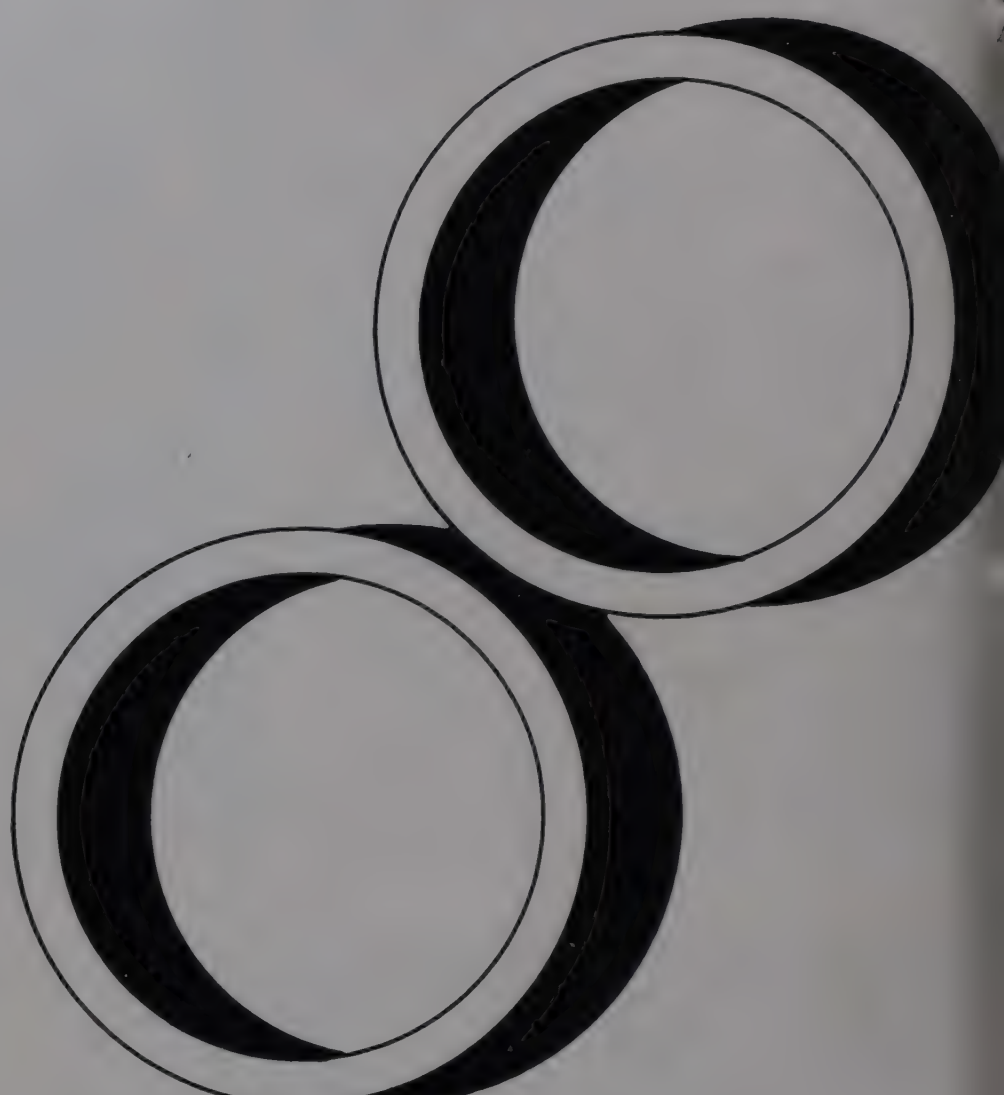
A great role in this field is played by the FAO/WHO Codex Alimentarius Commission which, relying on results of scientific research conducted in the world's most important research centres, determines the tolerances of those substances in order to ensure that a considerable health safety margin exists. Other questions concern the unification of nomenclature and methods of analysis and sampling, a fact of great significance to the contacts supplier-customer in the field of laying down contracts conditions and the actual execution of orders.

Equally important is the role of international food standardization in promoting exports of the developing countries. The international food standards expressing, among others, the requirements of the food importing

nations, provide for the developing countries standards for national normalisation and food legislation. It can thus be seen that those international standards make it easier for the developing countries to shape their exports to the requirements of foreign importers.

The aims to be fulfilled by international standardization are of utmost importance to Poland, seeing that this country is a large food exporter for whom the conformation of products to general world standards is certainly a most vital problem.

Moreover, the active participation in the food standardization drive renders it possible for Poland to exert a certain influence on the fixing of some rules and regulations laid down in the international standards so as to make them follow her food production conditions, the net result being that their subsequent enforcement does not present any serious problems. On the other hand, however, Poland is also a large importer of foodstuffs, and as such is most intimately interested that all imported food products meet her requirements and conform, above all, to the Polish food law. These ends shall be met by the full acceptance and enforcement of the international food standards, by countries in which Poland purchases foodstuffs.





# standardization work

And those are the main reasons of Poland's active participation in the work of some of the international organisations concerned with the elaboration of food standardization projects.

On the regional scale, Poland's participation in the international normalisation drive is confined to the following two organisations: the C.M.E.A. and the Economic Commission for Europe (ECE). It is the latter organisation, and strictly speaking its subsidiary organ of the Working Party on Standardization of Perishable Foodstuffs of the Committee on Agricultural Problems, that has been responsible for developing European Standards concerning practically all fruits and vegetables present on the European markets. These standards, which have been accepted and enforced by a majority of European countries, including Poland, take care of the entire fresh fruit and vegetables turnover in Europe. Provisions made in the said European Standards have been also incorporated in relevant C.M.E.A. recommendations and Common Market regulations. And thus, both the inter- and intra-regional turnover in fresh fruit and vegetables takes place in Europe under identical quality regulations. Such a state of affairs is highly profitable to both exporters and importers, and contri-

butes effectively to the further stimulation of food products turnover.

This is also an excellent example of the most advantageous results gained through international standardization. In the world-wide, international standardization Poland participates in the activities of the FAO/WHO Codex Alimentarius Commission and the ISO (International Organisation for Standardization). It is within the Codex Alimentarius Commission that Poland takes a particularly active part realising fully the future importance of the Polish developed standards to her economy. Consequently, Polish delegations take an active part in all meetings of the Codex Alimentarius Commission as well as in nearly all sittings of that Commission's committees. Although Poland has not run for leadership of any of the Codex Alimentarius Commission committees, she does nevertheless undertake the elaboration of numerous draft proposals, e.g. standards for mushrooms, standards for pickled cucumbers that have been developed jointly with the United States.

The charging of Poland with the role of author and rapporteur of standard draft proposals clearly reflects the full international acknowledgement of the quality of our production in that field. The Codex Alimentarius Commission has already developed over

40 worldwide standards which have been now submitted to the member nations for their formal acceptance. It is expected that once these standards have been accepted, and many countries have done so already, they will become the most widely used regulation in the world food turnover. That is so because, as of June 30-th 1971, there are 88 member countries. Further several score hundred draft proposals are in different stages of the procedure for the elaboration of Codex Standards. These determine the following questions: scope, description, essential composition and quality factors, tolerances on food additives and contaminants, hygiene requirements, weights and measures, labelling, and methods of analysis and sampling. The ISO-sponsored standardization also has a worldwide character which is, however, of a somewhat different nature and concerns chiefly other problems. ISO resolutions are facultative documents (recommendations) concerning mainly the nomenclature and methods of analysis and sampling. Therefore there can be no overlapping with the work being done by the Codex Alimentarius Commission. In the line of food, it is the ISO Technical Committee 34 (ISO/TC-43) that contributes to the efforts aimed at developing common standards. It is within the ISO that Poland directs the work of the Sekretariat of the Sub-committee 3 — "Fruits, Vegetables and Derived Products". So far ISO has been responsible for developing 100 recommendations and

more than 100 draft proposals in the line of agricultural and food products. Poland also participates in the standardization work pursued by the International Egg Commission which has elaborated standards for fresh eggs and dozen or so egg products. The Quality Inspection Office, subordinate to the Ministry of Foreign Trade, is responsible for cooperation in the line of standardization with the E.C.E. and the Codex Alimentarius Commission. The Polish Standardizing Committee cooperates with ISO, whereas cooperation with the C.M.E.A. is entrusted to the Ministry of Agriculture and to the Ministry for the Food Industry and Purchase. It is only natural that the preparation of materials and the pronouncement of opinions on various international standard draft proposals and recommendations should be carried out, as it in fact is, by competent bodies representing producers, users, the veterinary, sanitary and health services, scientific research institutes, institutions of higher learning and, last but not least, food inspection offices. Consequently, Poland's position in the various international organisations is backed by a full and extensive analysis of all the problems involved. The enforcement of standards elaborated by the various international organisations and accepted by Poland does not present any difficulty, seeing that in this country there exists a rather effective enforcement system and an adequate food legislation. These are based on the sanitary food and feeding conditions laid down in relevant government acts and, as far as standardization is concerned, on the appropriate standardization act. It is on the basis of those government acts that detailed health and sanitary regulations are elaborated alongside standards relating to the quality, testing methods, etc. Conformation to those standards is very rigorously checked on by appropriate control services, e.g. Health Service — in the line of sanitary requirements, and Quality Inspection Office — in the line of food exports and imports. Each international food standard that has been accepted by Poland can thus be seen to be effectively enforced. It is equally easily perceived that Poland's participation in the international food standardization ventures, both as regards the elaboration of food standards and their application, is of great economic and practical importance to this country.





# Polish fruit and vegetable preserves









**P**olish climatic and soil conditions exert a very beneficial influence on the quality of fruit and vegetables produced. Owing to these conditions and to special agrotechnology applied, Polish fruit and vegetables are remarkable for their aroma and taste properties and by the high content of nutritive components. A large amount of this raw material is processed by the fruit-and-vegetable industry into preserves, such as: fruit, vegetable and fruit-and-vegetable preserves to provide both for the home market needs and the ever increasing exports.

The Polish fruit-and-vegetable processing industry has at its disposal high quality raw materials and highly mechanized and automated processing lines. Therefore, it is in a position to produce semi-products and finished articles which are in regular demand (commonly called "preserves", though they contain no preserving agents whatever, the rightly selected temperature being the fixing agent).

Thus, Polish fruit, vegetable and fruit-and-vegetable preserves are renowned for their high nutritive and qualitative values. Not dwelling on the subject of their widely known energy-providing and wholesome properties, which result from various readily assimilated sugars, vegetal proteins, (and sometimes animal proteins), pectins and natural vegetal acids present in the product, special mention should be made of the content of vitamins and mineral compounds necessary for the human organism. Among these groups worthy of note are the particularly high amounts of vitamin C, provitamin A, vitamins of the B group, also vitamin PP, P and H, and even vitamin E (mainly present in French beans, spinach, cabbage and peas). Furthermore, among the mineral components appearing in the product the potassium, calcium, magnesium and sodium contents are particularly outstanding. Their predominance in fruit and vegetable products exert a considerable and beneficial influence on the nutritive values of Polish fruit and vegetable preserves and even on the fruit-and-vegetable ones, by virtue of their base-forming character.

As a matter of fact, in order to guarantee the high quality of the said preserves, in addition to the choice of the appropriate sort and quality of the basic raw material and the use of both up-to-date machinery and technological processes, all the other production elements are also appropriately selected. Therefore, among other things, the auxiliary materials and raw materials and packing should also be mentioned. The excellent quality of the water used as a component in the majority of the finished products is typical in this respect (for instance in such products as: nectars and fruit juices, fruit in syrup, marinades, pickles, preserves in brine, soup concentrates, sweetened juices, wines, meads, etc.), and this bears a decisive and be-

neficial influence on the kind, of taste obtained by the product and on the preserving process of the products. Among the packings, noteworthy is the use of "Twist-Off" glass jars of 0.2 to 0.9 l capacity, next tin cans coated with appropriated lacquers for food products of 0.5 0.9 l capacity, as well as "Ring-Pull" type cans, bearing interesting "Krakus" brand labels, for nectars and juices.

Export products of the Polish fruit-and-vegetable industry are grouped as follows: fruit preserves, semi-products, vegetable preserves and soup concentrates, preserves for snacks, marinades, nonalcoholic fruit juices, vegetable juices, dried vegetables, pickles and preserves in brine, deep-frozen fruit and vegetables, grape and fruit wines, meads and other fruit-and-vegetable and mushroom-and-vegetable products. Every group of products is characterized by its distinctive assortment, resulting from the kind of raw materials used and processing methods applied. For better information, we present below the main assortment of the three prevailing groups of products, namely: fruit preserves, all the vegetable preserves and marinades. These groups are composed of the following products:

#### 1. Fruit Preserves:

- various fruit in syrup (in jars of 0.45 and 0.9 l and in cans of 1/2, 1/1, 3/1 l, mainly from: strawberries, raspberries, plums, gooseberries, greengages, sweet and morello cherries, blackberries, pears, bilberries, black and white currants, and apples;
- low and medium-sweet jams (35 to 50 per cent of extract) namely of: morello cherries, raspberries, strawberries, black currants, bilberries and plums (in "Twist-Off" jars of 0.34 l);
- high-sweetened jams (called traditional jams of 65 per cent extract) mainly of: strawberries, raspberries, plums, cherries, gooseberries, black currants, blackberries, red currants, cranberries, bilberries, gooseberries-and-currants, raspberries-and even fruit-and-vegetable jams (in 0.34 l "Twist-Off" jars too);
- pasteurized fruits (in 3/1 l cans) mainly of: strawberries, gooseberries, black currants, red currants, morello cherries, raspberries, blackberries, bilberries, halved plums and apples;
- low and-high sweetened fruit juices (correspondingly of 32 per cent and 65 per cent of extract) mainly of: black currants, morello cherries, raspberries, red currants, strawberries, blackberries, bilberries, cranberries (in shaped bottles of 0.375 l capacity);
- traditional and low-sweetened fruit jellies, mainly from morello cherries, strawberries, black currants, red currants and apples (mainly in glass jars of various capacities);

- concentrated fruit soups, namely from plums, apples and bilberries (in 0.5 l "Twist-Off" jars).

#### 2. Vegetable Preserves (packed in 0.5 and 0.9 l jars and 1/2, 1/1 and 3/1 l cans) among which, are, first of all:

- stringless beans in preserves (entire and cut)
  - carrot preserves (entire and diced)
  - cauliflower preserves
  - Brussels sprout preserves
  - spinach and sorrel preserves
  - potato preserves (entire and diced)
  - red baby beetroots preserves (entire and sliced)
  - champignon preserves
  - preserves of blended vegetables (in various compositions e.g. carrots and green peas, cauliflower, carrots, and green peas etc.)
  - celery preserves
  - kale preserves
  - green peas preserves
  - pasteurized sauerkraut (white)
  - pasteurized pickled dill cucumbers (in 3/1, 5/1 and 9/1 l cans)
  - preserves of entire tomatoes in natural juice
  - preserves for snacks (such as: stuffed cabbage leaves, stringless beans in spicy tomato juice, vegetarian tripe, fruit-and-vegetable pie preserves, tomato paste and home made bigos) a variety of meat and mushrooms stewed in cabbage)
  - concentrated soup preserves from vegetables and meat-and-vegetables (in 1/2 l cans) in the following assortment: asparagus soup, pea soup, "spring soup", bean soup, cucumber soup, tomato soup with rice, tomato soup with noodles, cabbage soup, Wielkopolski borsch, barley soup, onion soup, champignon soup, leek and mushroom soup with cream).
- #### 3. Marinades, mild and spicy (mainly in jars 0.45, 0.5, and 0.9 l and in cans of 1/2, 1/1, 3/1, 5/1, and 9/1 l according to the kind and marinade variety). The following assortment is produced by the Polish fruit-and-vegetable industry:
- cucumber preserves (entire and cut)
  - "Praskie" cucumber preserves (i.e. made of pickled cucumbers)
  - dietetic cucumber preserves (made of peeled cucumbers, mild, with a small acid and salt content)
  - gherkins
  - cucumber salad and cucumber and cream salad
  - sliced cucumbers (pickles)
  - onion preserves ("Wolska and silvera cocktail varieties)
  - pumpkin marinade (with spicy condiments)



- baby beetroot marinade (entire and in slices)
- tomato marinade
- red cabbage salad (with apple concentrate, but without vinegar) and macédoine of red cabbage and apples
- vegetable-and-mushroom macédoines
- vegetable salads and fruit-and-vegetable macédoines
- grated horse-radish in vinegar and red beetroot salad with grated horse-radish
- mushroom marinades
- pickled plums (alone or with an addition of pears).

Thus, the Polish fruit-and-vegetable industry may boast of a quite considerable assortment of products, resulting, above all, from the steady development and modernization of processing of raw materials and from the properly directed methods of human nutrition. The production range presented above illustrates only a relatively small assortment sector of the Polish fruit-and-vegetable industry. The taste-and-dietetic values of the products as well as their high quality make them particularly renowned and in great demand on almost all markets of the world. These are the reasons why Polish preserves made from fruits, vegetables, fruit-and-vegetables, vegetables-and-mushrooms and meat-and-vegetables are among the best foodstuffs nowadays. Modern feeding requirements found for themselves in the Polish fruit-and-vegetable industry an exceptionally hearty supporter and that the products mentioned above are manufactured with particularly great care by the Polish industry. As a matter of fact, this industry has become one of the main suppliers of various food products (with a guarantee to maximally maintain the valuable components of the initial vegetal raw materials) necessary to satisfy the needs and require of man of today in the field of food quality and quickness of preparation of meals. That is also the reason of the world renown of Polish fruit and vegetable preserves.

The Polish Fruit-and-Vegetable Industry produces a great variety of semi-products and finished articles, known on the world-markets as the "Krakus" brand. They are excellent and have been in great demand for years.

**Export of these articles are  
handled by  
"AGROS"**

**Foreign Trade Enterprise. Please address  
inquires on business matters to:**

**"AGROS"**

Warszawa, ul. Żurawia 32/34 — Poland

# "AGROS" exports mushrooms

*Albin Gągolewski*

Poland is a country of a large forestage. Forests occupy a total area of 82.600 sq km. which amounts to 26,4 per cent of the country's area. The prevailing participation of coniferous forests occupying more than 80 per cent of the entire forest area form the most abundant base of mushrooms, which are found in varying quantities throughout the country. Mushrooming and mushroom consumption have in Poland great traditions.

Introduction of a rational forest crops economy, as well as properly organized mushroomings permit a continuously improving utilization of the raw material base in an industrial way.

In Poland more than 300.00 persons are engaged in industrial mushrooming. In years of an average crop, about seven million kg are picked, while in years of an abundant crop — up to 10 million kg.

About 65 per cent of mushrooms picked are earmarked for export. These quantities ensure for Poland the position of one of the

largest mushroom exporters in the world. More than 36 varieties of mushroom are picked, of which 20 are exported. Among mushroom varieties of rather considerable importance in export comprised:

- Cantharellus Cibarius
- Boletus edulis
- Gyromytra esculenta
- Xerocomus badius
- Suillus luteus
- Tricholoma equestre
- Tricholoma portentosum
- Armillariella mellea
- Rosites caperata

Mushrooms are exported fresh, as well as in the form of preserves. The largest fresh export item are chanterelles (*Cantharellus cibarius*).

The assortment of mushroom preserves produced and exported includes:

- Mushroom preserves, single-variety as well as mixed several varieties in cans of 1/4, 1/2, 1, 3 l. capacity and also in glass jars 0.37 and 0.5 l. capacity,





- Mushroom pickles — in jars of 0,2 and 0 5 l. capacity,
- Mushroom in brine — in spruce barrels, of 100 l. capacity,
- Dried mushrooms — in cardboard boxes and in multilayer bags,
- Mushroom flour — in parcels of 1,5 and 9 kg and in paper bags,
- Mushroom extracts — in parcels, jars and bottles of various capacities.

The for years improving organization of mushrooming, transportation and processing of mushrooms allow to preserve all valuable nutritive and taste properties of products being delivered on foreign markets as fresh commodities as well as preserves. Supervision over mushrooming and their processing, is carried out by in Poland by mushroom experts.

The task of these specialists is to check the mushrooms' edibility and hygiene in processing.

Furthermore, every batch of good earmarked for export is checked by the „Centralny Inspektorat Standaryzacji”, in abbreviation „CIS” (Quality Inspection Office) When a „CIS” inspector finds a batch of goods earmarked for export but not satisfying the export requirements, then such a batch is immediately eliminated from delivery.

The high quality of Polish mushrooms and of their preserves is the primary cause that they are the object of great interest on many foreign markets.

A fact of a special importance should be nited, that the mushrooms are not contaminated with toxic chemicals, as for the forests protection against pests a special stress is put on strengthening the natural immunity of the standing timber against pests and diseases. The method of chemical extermination of pests is at present carried out only exceptionally and in industrial situations. Such forest complexes are excluded for a defined period of time from mushrooming.

That is why mushrooms from Polish forests deserve high appreciation and the confidence of clients.



# Deep frozen fruit and vegetables – high nutritive and taste values

Henryk Wiszniewski

Industrial refrigerating engineering in Poland has not big traditions. Up to 1945 this branch of industry virtually did not exist.

The new agrarian policy, the obtaining of surplus agrarian production and in breeding, which had to be stored for a longer time, dictated the necessity of creating appropriate conditions for storage and the deep freezing of products.

Deep freezing of products is of vital importance in modern life. The consumer gets fruit and vegetables with an unchanged composition not only during the season but in the between-the-seasons time. Moreover the deep freezing of semi-products and ready dishes facilitates for consumers the running of their home. Production of deep frozen fruit and vegetables was started in Poland on an industrial scale in 1957. At that time the Union of Cold stores processed 12 assortments in a comparative quantity of one unit, in 1960 there were 17 assortments in a comparative quantity of 10 units and in 1970 the number of assortments rose to 33 in a quantity of 25 units.

The main maker of deep frozen products — the Union of Cold Stores, is ready for a further development of production and its adaptation to the requirements of customers. The association takes into consideration importers' special orders concerning varieties, sizes of packages, etc. The development of agriculture ensures a raw material base to such a degree that cold stores may select appropriate varieties of fruit and vegetables which are the best for deep freezing. The care to find an appropriate raw material not only from the point of view of quantity, but primarily from that of quality, ultimately led to the creation of own raw material bases. The management of cold stores imports special varieties of fruits and vegetables, which it hands over to farmers for cultivation and then reserves for itself the right of purchase of the raw material for the requirements of cold stores. Cultivations are under the supervision of export agronomists, are protected against pests and diseases, are properly cared for and harvests are at specially appointed times.

Deep frozen products from such raw material are of high quality. The fact should be stressed here, that in the processing of deep frozen fruit and vegetables no chemical preserving dyes and agents are used. A technology has been elaborated which ensures the preservation of the natural shape, aroma and nutritive values. In deep frozen fruit the vitamin content is preserved in a higher degree than in fruit preserves. This is illustrated in the table below which gives the vitamin C content in MG per cent.

Raw material	from		
	fresh	after deep freezing	preserved
Spinach	59	33	14
Beans	19	17	4
Strawberries	60	45	12—19
Plums	5	4	1

The preparation of deep frozen products for consumption requires no special additional treatment.

After unwrapping one only needs to pour hot syrup over the deep frozen fruit or sprinkle it with sugar and then boil it for a short time. Seasoning of the dish does not differ from that when fresh vegetables and fruit is used. Due to the shorter time of boiling the dishes prepared from deep frozen fruit and vegetables retain a high nutritive value.

Deep frozen products generally used in households are particularly valued due to the reduced time necessary for the preparation of dishes and the retaining of the nutritive and taste values.

Deep frozen fruit and vegetables have yet another virtue. They are a valuable semi-product for the fruit-and-vegetable processing industry. By laying in a stock of deep frozen fruit and vegetables a processing plant makes itself independent of seasonal offers of fresh raw materials and is able to operate throughout the year and thus becomes more workable. The possibility of obtaining a constant supply of deep frozen fruit and vegetable semi-products from cold stores ensures permanent employment for workers, makes the upkeep of special warehouses unnecessary and therefore the market is successively supplied with fresh preserves.

The world fruit-and-vegetable industry has fully appreciated the virtues of deep frozen semi-products. Polish exports of deep frozen fruit and vegetables are constantly growing.

In the early years exports were limited to three European countries. Today AGROS has entered the markets of the Americas, Asia and Africa. It is not unlikely that there are possibilities of doing business with a consignee in Australia.

AGROS is able to do lively business because deep-frozen products produced by the Union of Cold Stores are highly assessed by customers abroad.



# A few words

Among the many food articles exported from Poland alcoholic beverages and especially Vodka, both unflavoured and flavoured, have won themselves universal popularity and have an excellent reputation throughout the world. In fact it can be claimed that they have become the symbol of the highest possible to attain quality. A proof of this are the many medals and awards which in recent years have been awarded to Polish Vodka headed by Wódka Wyborowa at various international fairs. May we but mention the medals won at Leipzig, Ljubljana and at the Olympics in Brussels, London and in Paris. Thus we see that prizes have been won both in East and in the West which confirms the universally known slogan "East or West, Polish Vodka is the best".

Vodka production has ages-old traditions which go back to the Middle Ages. Old books from the XVI-th and XVII-th centuries discuss in detail the ways of "burning vodka".

Today the traditional ways of distilling vodka have been brought under control of a strict

technological régime. Polish vodkas produced in up-to-date distilleries do not lose any of their old organoleptic virtues. The application of a modern technology with the use of mechanized equipment has permitted the obtaining of products of the highest quality. Modern package, aesthetic and practical corkage of the Pilferproof type are an additional advantage of Polish vodka. In Poland the production of vodka is considerable as it annually tops the 100 million litre mark of 100° G.L. of alcohol. In recent years exports of vodka have developed very considerably and embrace more than 70 countries. It would be difficult to find in any large town the world over a high class in which one would not be able to get a drink of the standard

Polish product — Wódka Wyborowa.

The following figures will picture the growth of exports of Polish vodka:

in 1960 exports slightly exceeded 0,5 million litre 100° G.L. (560.000 l.)

in 1965 they amounted to about 2.9 million l 100° G.L. and in 1970 they exceeded 5 million l 100° G.L. which in terms of bottles amounts to more than 25 million. The assortment of Polish vodka is very rich and embraces about 120 items. Next to vodka with a neutral aroma and taste, which is known the world over as "Vodka", we produce a number of vodkas with specific aroma and taste properties which are unknown or little-known in the West. These are more or less sweet vodkas and liquors aromatized with natural fruit juices or infusions obtained from fruit, herbs or roots, such as Jarzębiak (Rohan Vodka), Wiśniówka (Cherry Cordial), Żubrówka (Bison Brand Vodka). The first place among Polish vodka is held by WÓDKA WYBOROWA which is decisively superior to the hundreds of products of this kind





# about Polish vodkas

now being produced in various countries. Its diamond pure clarity, smoothness and viscosity, its barely perceptible aroma and neutral — yet not deprived of certain sharpness — taste, have contributed to its recognition by many connoisseurs as "the world's best vodka".

Pablo Picasso's opinion that the most phenomena of the post World War II period are the successes of blues, cubism and.... Polish vodka.

The gold medals and awards won by WODKA WYBOROWA are the best proof of its high quality. The virtues of WODKA WYBOROWA have been recently again confirmed by it being awarded in Paris the highly valued International Emblem of Good Taste (Emblème International du Gout et de la Saveur).

The quality of WODKA

WYBOROWA is determined by the following set of factors:

- use of the best raw material (only selected rye is used)
- absolutely perfect technology for the rectification of spirit and the use of ideally soft water
- improvement of the obtained

vodka by the application of a special technology of multiple filtration with the use of activated carbon.

As result of many years of efforts we obtain now the original WODKA WYBOROWA of 45° G.L. strenght and a harmonized unique taste. The flavour of WODKA WYBOROWA cannot be described it must be tasted.

In addition to WODKA WYBOROWA we offer to consumers the world over:

1. EXTRA ŻYTANIA vodka (Extra Rye) of 40° G.L. — this is a pure grain vodka made from a rye rectificate.

2. ŻUBRÓWKA — BISON BRAND VODKA of 40° G.L. — this is a renowned vodka aromatized with a bison grass infusion. Bison grass grows in the Białowieża Virgin Forest in the far region of eastern Poland. This wildy growing Hierochloa Odorata has a specific, very delicate, aroma which gives the vodka unique taste and aroma characteristics only for ŻUBRÓWKA.

The use of artificially cultivated grass and all the more so no synthetic aroma ingredients will

ever provide these original characteristics. Thus Polish BISON BRAND VODKA is an original product the distinct feature of which is further stressed by a blade of bison grass placed in each bottle.

3. JARZĘBIAK — ROWAN VODKA of 40° G.L. strength.

This is a seasoned aromatic fruit vodka. Its pleasant, slightly bitter flavour is derived from noble varieties of rowan berries (*Sorbus aucuparia*) which are picked after the first autumn ground-frosts. An infusion of rectified spirit on this fruit forms the basic addition of a wine distillate. Rowan Vodka has traditions of 200 years standing — especially in Southern Poland where rowan trees with their odourful berries are an embellishment of the local landscape.

*Jan Cieślak*







Among the assortment of fruit wines produced there are wines suitable for all sorts of meals. In order to make the wines palatable, they should be appropriately handled.

Same  
practical  
hints

When serving, one of the main conditions is to keep them at an appropriate temperature, for every wine variety should be taken at a certain temperature, then it tastes the best. Therefore, white wines should be slightly chilled serving, whereas dry ones and semi-sweet — more, and sweet ones and very sweet — less chilled. Fruit wines should never be frozen, nor kept on ice, because, in order to maintain the true taste and perceptibility of the true taste and perceptibility of the bouquet, positive temperatures are necessary. Frozen fruit wines lose many of their organoleptic properties. Only herb wines may be cooled more and served with a lump of ice in the glass. Red wines should have a room temperature, because gourmets will not feel their true taste when chilled.

# Fruit wines for various meals





Below are given the most appropriate temperatures for tasting and drinking of all kinds of wine:

Kind of wine	Temp. in C from-to
White: dry and semi-dry semi-sweet	8—10
semi-sweet	10—12
sweet and very sweet	12—14
Red: dry and semi-sweet	16—18
sweet and very sweet	14—16
Herb wines: dry and semi-sweet	6—8
sweet and very sweet	12—14
Meads	12—16

If wines are stored at higher temperatures, they should be chilled before serving them at table, and correspondingly warmed when stored at lower temperatures. Chilling of wine may be obtained either putting the demijohn into an ice-filled recipient or by putting it into the refrigerator (do not pour cold water, because you may ruin the label and in consequence the demijohn will lose its aesthetic appearance). Warming of wines to room temperatures may be obtained either by maintaining them for a given time in a warm room or, as the last resort, by pouring warm water (not hot) over the non-labelled side of the demijohn.

The selection of the right wine at an appropriate temperature for the given dish and its aesthetic ser-

ving are decisive for the consumer's relish. Before serving the wine at table one should prepare the demijohn for pouring the wine. To this purpose take a sharp knife and cut the upper horizontal surface of the string at the demijohn's neck, wipe the possible remaining glue fragments, then draw the cork out with a cork-screw.

Thus, the demijohn does not lose its elegant appearance, keeping as before the string coil at the neck. Check next the wine's temperature and if necessary rectify it adequately. As a rule, demijohns should be drunk entirely, for keeping opened wine at home with an already untight cork closing, may spoil it.

To guests who came for a short visit to take a glass of wine — any wine may be served with crispy pastry, biscuits, pretzels, sweet or salty cracknels, nuts or almonds. When served at other meals wines should match the meals. At smart parties before the meal either herb wines chilled according to the directions given above or cocktails on the basis of a herb wine should be served. Different sorts of wine are served to every course, beginning from the least sweet to the very sweet ones. The selection of the right wine may be quite difficult, therefore, the advice given below may be of some help:

- white wine — dry, semi-dry and semi-sweet are served with cold meat, fish in aspic or in mayonnaise, white fleshed poultry, ham, cheese, pie, asparagus, sardines, crayfish, fried and grilled fish etc.
- red wine-dry, semi-dry and semi-sweet are served with game dishes, dark meat, poultry with dark flesh and with floury dishes,
- white and red wine — sweet or sweet as well as sweet herb wine can only be served with desserts, but not during the basic meal. These wines are served with every kind of pastry, layer cakes, sweets or fruit, and with coffee.

Semi-dry and semi-sweet white wines are taken also with snacks, lunches and dinners. Then they go best with cheese, pies, tongue, liver, cold fish in white sauce, boiled poultry, veal, baked noodles, asparagus, green peas, French beans and various kinds of white meat.

Dry and semi-sweet red wine are taken like white wine, but with different dishes. Thanks to the moderate alcohol content, and such components as organic acids and natural pigments and vegetable tannins these wines possess particular dietetic properties. Vegetable tannins precipitate the protein and mucilaginous substances in the alimentary tract thus increasing appetite and accelerating digestion.

Owing to these properties, red wines are drunk in very large quantities in all wine countries. Snacks and dishes going best with red wines are: sirloin, salami, ham, kidneys, liver, venison pie, beans with lard, beefsteak, roast beef or pork chop, mutton prepared in any manner, game, roast poultry, poultry giblets and pod vegetables.

It should be born in mind, that wines ought never be served with dishes containing vinegar. Fruit wines are also fit (in combination with soda or mineral water and dry vodka) for making various iced beverages made of wine and juices, fruit etc., cocktails and candles. They also may be used to make mulled wines (especially in winter time) with an addition of sugar and possible aromatic spices.

## Meads are drunk in the same way as dessert wines

A known utterance of Plato, one of the greatest philosophers of antiquity, comes to mind when speaking about wines: „... as milk is indispensable for a child, so milk becomes wine for a grownup”. Below we present the most renowned Polish fruit wines, enjoying great popularity among consumers:

## Apple Wine — “Zamkowe”

This is a white, mild, semi-sweet apple wine, made of one of the noblest apple varieties, bearing the Polish name „Antonówka”. „Zamkowe” wine is not a strong wine, as its alcohol content lies in the range of 11—13. Its sugar content is likewise low, of 55 g/l. It is appreciated as a very tasty, refreshing wine, removing weariness.

## Bilberry Wine — “Złoty Róg”

This is a red, semi-sweet wine, the distinctive taste of which is obtained through blending different kinds of wines (with a different alcohol content) made of red musts with a small quantity of apple wine, made of winter varieties. The main fruits, used for obtaining of the right blending are — blackberries, cherries, black and red currants and bilberries — in the largest amount. Forest fruits (blackberries, bilberries) used for the making of the wine, come from piedmont regions, where growing on the sunny slopes high hillocks, they acquire an exquisite excellence and a rich aroma. The use of coloured fruit enables to create a ruby-red coloured wine, with a specific slightly bitter flavour, required for red wines.

## Blackberry Wine — “Jeżynowe” (Beskid)

Blackberry wine is a sweet type of wine. Its alcohol content ranges from 12—14 and the sugar quantity is contained in the limits of 100—120 g/l. It is made from mountain blackberry juices, having, therefore, a magnificent dark red colour. Owing to the content of a certain amount of tannin substances, it has a specific somewhat acrid flavour.

## Cherry Wine — “Rycerskie”

This is a multi-fruit wine, made of cherry must and an addition of must from apples, black currants, bilberries and blackthorn. Fruits used for processing of this very sweet red wine originate from the largest orchard base in Central Poland. „Rycerskie” wine contains 14% of alcohol; it undergoes a maderization process, thus acquiring the mild taste of southern wines. The sugar content amounts to about 130 g/l. The wine belongs to the most tasty and most in demand dessert wines.

## Gooseberry Wine — “Zbójnickie”

„Zbójnickie” wine is made of gooseberry must with an addition of must from dog-roses, apples, white currants and cowberry. The fruit come from the second largest orchard district, situated in the mountainous regions of southern Poland. It is a sweet wine of a beautiful golden colour and excellent taste. It belongs to the maderized group of wines, the taste of which reminds of old Polish meads. The alcohol content amounts to 13%, sugar content averages 100 g in a litre.

## Herbs Wine — “Klasztorne”

It belongs to the types of sweet, white, herb wines the taste of which reminds of Italian vermouths. The impression is got as a result of using two original Italian herb compounds — Bianco and Torino. The wine is made of apple must with an addition of strawberry and blackthorn musts. The specific and extremely interesting taste of the wine is toned down by the sugar content of about 100 g/l. whereas the alcohol content averages of 13%.

## Red Currant Wine — “Janczar”

Juice of red currants with an addition of blackberry, bilberry and dog-rose musts is the main component of this wine. It has an alcohol content of about 14%, the sugar content attaining 150 g/l. It belongs to the white wine group, which as a result of maderization and of the musts used, take a brown colour. It distinguishes itself by the specific refined taste and glavour of currant wine, greatly in demand on European markets.

## Strawberry Wine — “Truskawkowe”

This wine belongs to the white, sweet monofruit wines, made of strawberries of „Faworytka” and „Purpuratka” varieties. It has a 14% alcohol content and a average of 90 g sugar/l. Low wine acidity together with excellent strawberry flavour gives the wine a deliciously mild and subtle aroma of a refined sweet wine.







# POLCOOP

**is fifteen  
years old**

*Janusz Trzcianka*

Among the Polish enterprises engaged in foreign trade in the agricultural and food branch, a leading position in various sector including that of contacts with home and foreign co-operatives, is occupied by POLCOOP, this being a branch of the vast Central agricultural Union of „Samopomoc Chlopska” Co-operatives (Polish abbreviation – „CRS”) associating more than 4,2 million members (mostly in the country), i.e. about 30 p. cent country in Poland. „CRS” associates 2,508 co-operatives 275 district and 17 provincial co-operative associations.

Carrying on the trade in the country on the principle of almost full exclusiveness, „CRS” has more than 61,000 shops, 5,000 restaurants, and about 23,000 factories and service stations of various branches.

Co-operatives associated within „CRS” are carrying on among their members training, educational and cultural activities. Rich experiences have been ingathered in the organization of farm products purchasing. „CRS” does not limit itself to dealings in its some 54,000 purchasing stations, but already at an earlier stage influences the directions and development of agricultural production, by giving professional assistance for farmers and the conclusion of contracts which





oblige the delivery of defined agricultural products at dates and in quantities and weights mutually previously agreed upon. Thus the farmer is sure of selling his products. Just for this reason POLCOOP has in its wide export assortment primarily goods coming for purchases as well as from „CRS” own production. Individual departments of the POLCOOP offer: articles of animal origin (horse meat, rabbit meat, meat preserves, etc) articles of vegetable origin (fruit and vegetable preserves mushrooms, consumer seed, etc).

Also a special department was set up for potato export, as POLCOOP is the sole exporter of seed-potatoes, as well as of edible and industrial potatoes, (Poland, by obtaining potato crops exceeding on an average 4 millions tons yearly, occupies in this field the second place in the world).

It should be noted that POLCOOP is particularly specialized in exports of horse meat, deep frozen rabbit carcasses, consumer seed (e.g. poppy, beans, peas), as well as of such specific articles as frogs, snails and goose livers (for the French market), canaries, garden peat, decorative cones, etc. POLCOOP goods reach consumers in 60 countries of all continents. The majority of the annual

turnovers, amounting to about 150 million dollars, falls to Europe. POLCOOP's participation every year in 13 most important foreign fairs as well as its regular participation in the Poznań International Fair, at which POLCOOP constantly makes new commercial contacts, bears a marked influence upon the widening of its circle of customers.

POLCOOP's imports also in the current season are limited to potassium salts. POLCOOP however, imports to Poland a number of goods through the agency of its department of co-operative exchange; this department is not only an instrument of trade, but also of close contacts with co-operative organizations of other countries.

POLCOOP's partners consider this firm as one of the leading enterprises of the Polish foreign trade, and as an enterprise with a tremendous rate of development. Within the past 10 years turnovers increased fivefold, of which exports of agricultural products and foodstuffs alone grew as much as sixteenfold. Just for this reason POLCOOP recently took over a number of new commodities with the rights of sole exporter. This means that in the sixteenth year of its existence the role of POLCOOP is on the up-grade.

## Meat of guinea-fowl preferred by gourmets

In the opinion of many consumers, meat of guinea-fowl is the most exquisite. To obtain refined savour of guinea-fowl's meat, however, a lot of breeding work is needed. Polish poultry farms, situated in climatic regions, most propitious for breeding of this fowl variety, have particular specialization in this line.

Deliveries of guinea-fowl for slaughter are organized in Poland by the Union of Egg and Poultry Industry, a State enterprise, connected by contracts with the best known poultry breeding individual farmers and with co-operative poultry farms. This ensures adequate training and inspection, and thus it is always known that Polish guinea-fowl are bred under entirely natural conditions (special natural fodder and fowl-runs). This precisely guarantees, among other things, not only the genuine excellent savour but also the beautiful colour of guinea-fowl meat, which, after roasting, acquires the golden shade of game. It is exactly by these values that gourmets easily recognize that meat of Polish-bred guinea-fowl.

Polish guinea-fowl carcasses have been delivered to numerous foreign markets. In many European countries, among other ones, in the GFR, Switzerland, France or Belgium, according to the purchasers' opinion, an increase in the demand of frozen guinea-fowl carcasses from Poland is anticipated. Among the importers of these countries the opinion prevails that POLCOOP, Foreign Trade Enterprise of the Central Agricultural Union of „Samopomoc Chlopska” Co-operatives is the most renowned supplier of guinea-fowl carcasses weighing from 600 to 1,200 gr in three assortments:





grillers (without heads, legs and giblets) and Pfannenfertig (without heads and legs, drawn, but with giblets inside the fowl: heart, liver, and stomach). Every assortment is packed in polyethylene bags, then in cardboard boxes with 10-12 pieces of fowl of approximately the same weight, for POLCOOP delivers guinea-fowl assorted in weight and classes (classes vary successively every 50 gr). Polish guinea-fowl is crispy, thin-boned and perfectly muscled, thus very subtle. When roasted, Polish guinea-fowl meat acquires additional values: not in the last instance should be mentioned here the colour — the golden shade of game. At the same time, the most important thing is that none of the meat properties is lost during the process of preparation for delivery, as the slaughtering, cooling, packing and deep-freezing in Polish poultry enterprises are perfectly timed and properly worked out according to the food-processing technology.

Guinea-fowl are first cooled with scale-ice (every poultry assortment has its proper short cooling time) and then packed in polyethylene bags. Packing is completely mechanized, speedy "poly-clip" devices serving for that purpose. The bags are next loaded into cardboard boxes, containing only one weight class. The poultry packed in boxes is next transported to the neighbouring cold store, where a temperature of  $-35^{\circ}\text{C}$  prevails in the freezing tunnels. Some of the poultry assortments remain at this temperature for a shorter, other for a longer time (e. g. guinea-fowl stays four hours). Deep-freezing protects the appetizing colour of the meat, which is fully preserved after the freezing process. Neither is the taste of the meat affected, it will be as good as fresh meat after freezing.

At home the unfreezing of guinea-fowl carcasses causes no trouble. Within 2-3 hours the consumer obtains a product, which, like chickens or partridges, is fit for cooking in a score of ways. POLCOOP, the Polish exporter of frozen guinea-fowl carcasses is also known as a supplier of other valued food products. It has won general appreciation finding approval of foreign contracting parties for the regular, businesslike fulfillment of contracts signed. The customer selects the carcass assortment and its weight class after which POLCOOP executes the contract by consignments of a full carload (10 ton) during the delivery season, from September till the spring. The deliveries are carried out in refrigerator cars, that is in conditions guaranteeing the maintenance of the product's proper value.

It is worth while to mention here, that the Polish poultry-breeding industry has at its disposal slaughter-processing plants fitted out according to up-to-date requirements. Quality inspection is carried out with particular curacy in this industry. Guinea-fowl carcasses, before shipping, pass moreover a second inspection — on behalf of the Quality Inspection Office — a State organization for quality inspection. Thus, foreign customers receive actually high quality articles, which may be confidently recommended to the most exacting clients. Companies from Switzerland, France, Belgium and other countries which decided to sign import agreements with POLCOOP for the delivery of guinea-fowl, are of the opinion that they made an exceptionally advantageous business. Appropriate publicity, which was facilitated by the prime quality of Polish guinea-fowl carcasses, caused a considerable expansion of the market for this article. Frozen guinea-fowl carcasses delivered through POLCOOP are considered there as

## Rise in Export of Frozen Rabbit Carcasses

Polish meat and meat products are now exported by various foreign trade enterprises. Among them, the co-operative enterprise POLCOOP is specialized in deliveries of rabbit carcasses.

The co-operatives associated in CRS (Central Agricultural Union of "Samopomoc Chlopska" Co-operatives) conduct, training, educational and cultural activities among their members; they have their own professional libraries; organize agricultural courses, exhibitions and breeding contests. Apart from trade, services and social and cultural activity, the fundamental line of CRS's activity is the organizing of purchases of agricultural products. CRS does not limit itself to transactions with its 54,000 purchasing centres, but also exerts preliminarily an influence on the methods and development of agricultural production, by giving professional assistance to farmers, concluding purchase agreements for the delivery of various products — among other things of live rabbits — on mutually agreed conditions, such as terms, quantity and weights. This means that the processing industry will use highest quality raw material.

CRS owns numerous processing plants specialized in particular lines. Among them, a dozen or so rabbit slaughter-houses, working under the best sanitary conditions, occupy an important place. Only absolutely healthy rabbit are accepted for slaughter. Every head is inspected by a veterinary surgeon before and after slaughter. Immediately after slaughter the rabbit carcasses are deep frozen by the most up-to-date method, which ensures the preserving of properties of the fresh meat and its proper, natural colour. Such skinned and disembowelled rabbits, without heads and legs, but with the nutritive and tasty giblets: liver, kidney and lights, left inside, as they are the best raw material both for use at home and in restaurants. According to the opinion of gastro-





names the rabbits are easy unfrozen within 2—3 hours and are fit for preparing various dishes and satisfy the most exacting palates. The tight polyethylene bag packing preserves the nutritive value of the meat and its beautiful colour and also protects every frozen rabbit carcasse against the impacts of transportation and storing (Polish exporters deliver 25 kg-cardboards boxes, containing carcasses — each weighing more than 1.05 kg — in polyethylene bags. At present, customers receive consignments in a new, more refined form. A whole carcass is cut in three parts and placed on salvers wrapped in shrinking foil. Such parcels, weighing 1 kg, are smaller, than entire carcasses, they are better shaped, thus handier for wholesalers and retailers. As a matter of fact, skilfully cut carcasses save work for the housewife, in one word, they make the preparation of meat easier. POLCOOP Foreign Trade Enterprise of the Central Agricultural Union of "Samopomoc Chlopska" Co-operatives, the exporter of this wholesome and savoury rabbit meat, delivers the goods in refrigerator cars from Warsaw, orders for carloads (10 tons) being carried out. Deliveries are executed the whole year round. It may be mentioned, that in some countries POLCOOP products achieve higher prices, than products of similar quality from other sources. This is an additional recommendation for every businessman.

Not only wholesale importers, but also retailers, who buy from them Polish-bred rabbits, may expect easy sales in their shops, for rabbit carcasses imported from Poland are easily distinguished from other ones. Shapely, but not fat specimens of a beautiful colour of the flesh catch the buyers' eye. Thus, natural breeding and nutrition methods prove their superiority. Buyers recommend to each other: Polish rabbits nourished with natural fodder are larger and have delicate meat,

which by its taste reminds of turkey meat. It is richer in nutritive components than other kinds of meat. The purchase of Polish-bred rabbit carcasses is backed by recommendations of scientists and dietiticians. They point out that, apart from proteins, the mineral salts contained in rabbit meat are of great importance for the preservation of youthful appearance, full vital power and for the regeneration of the constitution. Many scientific studies proved, that owing to natural fodder, proper breeding methods and selection of the breed, Polish rabbit carcasses contain the highest amount of proteins and components, beneficial to the constitution.

Exports of rabbit meat initiated by POLCOOP in 1959 brought about, in a relatively short time, a substantial increase in rabbit breeding in Poland.

At present, POLCOOP exports rabbit meat to nine European countries and to the USA. Among the most important consignees of rabbit meat are Italy, the GFR, Great Britain, Switzerland and France. Exports of rabbit meat to the USA considerably increased last year; this market, however, could import several times greater amounts of meat from Poland than those hitherto exported by POLCOOP.

In the course of recent years, together with the changes in the quantities of exported rabbit meat, advantageous for the customers changes in the methods of preparation for exports occurred. At present, apart from deep frozen rabbit carcasses, POLCOOP offers fresh chilled rabbit carcasses. The processing plant at Tarnów Podgórny has specialized in such forms of export preparation. The plant also has started to process portioned rabbits in special modern packing. New forms of pre-

paration of products for exports are in turn taken over by other plants, too, especially, by plants recently put into operation, which have particularly good technical and technological production conditions. Village co-operatives, as well as plants processing rabbit meat for exports lately paid special attention to the problem of the breeding and purchasing of rabbits. Regionalization of rabbit purchases is already in force, i.e. the plant which processes rabbit meat is supplied with raw material from the neighbouring regions; this enables a closer and permanent contact of the processing plant with the village co-operative purchasing machinery and, moreover, creates possibilities to induce the development of rabbit breeding and improvement of its quality.

The purchase system in force brought about an improvement of the quality of the raw material. At purchases definitely preferential prices are given to suppliers of heavier rabbits (additional preferences are allocated for suppliers of white-furred rabbits).

The growing purchasing activity and also the subsequent progress in exports, will undoubtedly impart dynamics in the coming years to the deliveries of Polish rabbit carcasses to such markets as for example, the Austrian one, which purchases only small lots of this article. To an increase of contracts may contribute, among other things, the spreading of West-European cooking habits accompanying the development of tourism. The traditions of rabbit meat consumption have become deeply rooted in many countries and tourists coming from there readily welcome differentiated rabbit dishes in the offered menu. The knowledge of their tastes exerts an influence on a far-sighted policy towards customers, who order POLCOOP deliveries in time for the 1972 season and thus want to secure contracts for coming years, too.

**Polish mushrooms**

**—the best**





In summertime and early fall, at three o'clock in the morning every day, lorries with Polish registration marks, loaded with fresh Chanterelles, arrive in the square in front of the Frauchthof market in West Berlin. Merchants from more than 100 West Berlin wholesale companies being aware of the regularity of deliveries, strive for Polish Chanterelles to be represented every day in the assortment of articles, sold to the retail trade. In Berlin, they are commonly acknowledged to be the most attractive article on the vegetable market. Ingenious advertisements of Polish mushrooms bear witness to it.

One of the largest department stores, BILKA, aptly advertises Polish Chanterelles. These mushrooms are the hit of the season also in other big stores, where in front of stands selling Polish Chanterelles, a line of buyers unvaryingly gathers.

Fresh mushrooms, in particular if they are Polish mushrooms, always find a ready market, not only in West Berlin. Throughout Europe and in the USA it is common knowledge that mushrooms are a traditional Polish export article. Although from spring to fall, according to climatic changes, fluctuations in mushroom picking may happen even to a considerable extent, nevertheless the abundance and diversity of mushrooms in Polish forests are so great that it was possible to increase exports a number of times in the past years (with the exception of last year, which was dry). The extensions of Chanterelle picking for exports and the expansion of previously unexploited purchasing centres in forest regions will enable the renowned Polish exporter, "POLCOOP", Foreign Trade Enterprise, to offer to its customers fresh mushrooms and mushroom preserves as early as this season. As it may be expected, Chanterelles will occupy a leading place in Polish exports of fresh mushrooms.

It is well known that Chanterelles are plentiful twice a year. The intensification of exports is, as a matter of fact, connected with the periods of intense picking (the first period is at the beginning of July, the second

one — at the end of August). Nevertheless, deliveries last during the whole picking season, i.e. from the middle of June to the middle of October, reaching the customer every weekday (except Sunday). The deliveries are realised by especially adapted lorries, refrigerated trucks (delivery embraces at least one lorry) and also by refrigerator cars.

"POLCOOP" dispatches fresh mushrooms either in chip baskets of 1.15 kg net content or in wooden boxes weighing 3.3 kg net (in principle mushrooms of so called "B" standard, with large caps, are packed in cases).

The quality of export shipments of Polish mushrooms is carefully checked. Export bases, of course, first eliminate wet and soiled mushrooms, then sorts the chosen merchandise according to standards A and B. Stamping of the chip baskets with seals of particular suppliers eliminates any anonymity whatsoever in advance; this has also a favourable effect on the quality of the goods. This season, "POLCOOP" has tightened further the delivery conditions from the forest bases and plans at the same time, a further shortening of the duration of transportation of fresh mushrooms.

Customers of "POLCOOP" are of unanimous opinion that both the organization of shipment of Polish mushrooms and their quality are improving with every season. This proves that the easy to check in contacts with all customers reliability of the exporter, of "POLCOOP" enterprise, is confirmed with every consignment to Berlin and elsewhere. This also refers to the very savoury Agarics (Tricholoma Equestre), offered this season, which can be delivered fresh in chip baskets of 1.15 kg net by the same transportation means as for Chanterelles.

"POLCOOP" is prepared, furthermore to deliver fresh mushrooms called Boletus Scaber (and other forest crops: fresh and dried forest fruit). Since they are in demand on many foreign markets, the Polish exporter endeavours to assign in advance a definite part of deliveries for its regular customers. It is worth mentioning here, that for several years now "POLCOOP", Foreign Trade Enterprise, has been delivering selected kinds of forest fruit to customers in various countries.

Poland exports fresh cranberries, sea-buckthorn, dog rose, cowberries, sorb, sloes and elder-berries. Shipments of the fruits are carried out during the entire harvest season successively, alongside with mushroom transports.

In the present export assortment of "POLCOOP" dried mushrooms are represented by: Chanterelles, Boletus edulis and Gyromitra esculenta. It should be added, that during the drying process provided for by Polish technological standards, the Gyromitra esculenta is deprived of any compound noxious to the human health contained in this fungus variety — in particular, of helvolic acid ( $C_{12}H_{20}O_7$ ). Deprived of any trace of helvolic acid, dried Gyromitra esculenta can be and is used as an excellent seasoning for sauces and condiments, giving them a spicy flavour and additional nutritive values.

"POLCOOP" ships, among other things, to France and the GRF dried mushrooms of a humidity degree guaranteed by standards (12%). Individual packages contains one-class mushrooms only (selected in three classes — according to the size of the mushrooms), thus the customer receives products not only of guaranteed quality, but also in the required class.

Exports of Polish mushrooms in brine (Chanterelle, Armillaria melea and Agarics) are also growing in importance. The strongly concentra-


ted brine (from 12 to 16) per cent fully preserves the mushrooms without depriving them of any of their virtues. In this form mushrooms are fit, in particular, for manufacturing of preserves in demand.

Of no lesser importance line of "POLCOOP"'s export are mushrooms in preserves, in particular, sterilized ones: Boletus edulis, Boletus leteus, Tricholoma equestre, Armillaria melea and Chanterelle, and also a mixture of these sorts and finally pickled mushrooms (assortment as above). It may be presumed, that customers from countries, which have until now not imported mushrooms by the intermediary of "POLCOOP", will welcome with pleasure imports of the much prized in Europe and in the USA Polish mushrooms.

The Polish exporter expects to considerably increase the amounts of mushroom preserves delivered to various countries as early as this season (sterilized) Chanterelles and mixed mushrooms — including, Boletus leteus and Tricholoma equestre — sterilized in 5 l and 1 l tins. Thanks to the technological process worked out according to original Polish methods these preserves keep their taste and all of the most important properties of fresh mushrooms. Conditions of mushroom preserve preparation warrant full hygiene and wholesomeness of products, because the production line is fully automated and that repeated quality checks are carried out during production. Mushroom preserves are a precious acquisition for housewives even during the delivery season of fresh mushrooms, for they save time, necessary for the preparation of mushroom dishes. And out of season they are an irreplaceable source of relish for gourmets, lovers of Polish mushrooms.

The interest shown for Polish mushroom preserves during the sale of first pilot consignments last year is a good augury for further transactions.





# Guaranteed Seeds for Consumption

When looking for the supply sources of the most valuable products, enjoying popularity with consumers, importers of peas and beans pay attention to the important exporter of consumable seeds from Poland i.e. to POLCOOP, Foreign Trade Enterprise of the Central Agricultural Union of „Samopomoc Chlopska” Co-operatives. Specialized in various export lines of food products, POLCOOP acquired rich experience also in trade with peas and beans (purchase, storage, storehouse conditions, transportation). It might be noted, that various import sources enable the customers to compare the product's properties since a long time.

All consumable seeds offered by POLCOOP are characterized by their taste values, which are obtained, to a high degree, thanks to the natural growing conditions, natural fertilizers and to restricting to a minimum the use of chemical agents. The cultivation of pod plants in Poland is concentrated in a number of specialized plantations. Peas and beans find there optimal soil conditions, and as the climate in some regions of Poland particularly suits these cultivations, crops, as a rule, are considerable and their quality is high. Although the area of pod plant cultivation, in comparison, for instance, with the area assigned for vegetable cultivation, is, in general, not very large in Poland, noteworthy is the high quality of pea and bean production meticulously maintained by planters — who are experts in these cultivations. The selection of appropriate varieties for reproduction has a decisive effect not only on the quality of consumable seeds, but also on the volume of pea and bean crops. In Poland these are of such a kind that, despite the occurring fluctuations, it is possible to realize important export contracts. The contracting parties include, among others, France, Italy, Belgium, Switzerland, Great Britain and Austria. Polish beans, in particular, are delivered to 25 countries — even to Australia.

Among importers today the opinion prevails that Polish peas are rightly

considered as the most tasty. Such distinction among consumers has been rightly won by "Victoria" yellow peas, which are suitable both for soups, salads and as a vegetable course.

Customers unanimously state that all "Victoria" peas consignments are free of impurities and pests. Polish peas, purchased by many foreign firms by the intermediary of POLCOOP are calibrated before shipping (seeds of 6 mm dia or handsome of 7 mm dia). They are outstanding because of their beautiful, uniform colour. Housewives emphasize the peas' cooking evenness and also that the taste virtues of Polish peas are their constant feature, irrespective of the crop season. That is so because by laboratory methods a humidity grade of 17 per cent, warranting the best taste and culinary utility of peas is ensured (the point is that peas should be neither too dry nor too damp.) Pea consignments, just as bean shipments, reach the customers in bags of 50 or 75 kg, or in small, coloured cardboard boxes (of 0.5 and 1 kg each), with a cellophane peep-hole, which enables the consumer to see the contents of the box.

The recent seasons were not too propitious for pea picking. Nevertheless, POLCOOP made everything to meet its obligations with traditional customers and this at a time, let us remind, when for instance in 1968, draught brought about a drop of pea supplies all over Europe. Neither did the temporary decrease of supplies of Polish consumable seed cause exertany impact on the appreciation of POLCOOP's established position as a bean exporter. It is forecast, that this season will be much more advantageous in this respect and will ensure possibilities to fulfill many new contracts.

Many importing firms place orders with POLCOOP for the typical Polish bean variety, called "Piękny Jaś" (meaning handsome Jack). This complimentary appellation is justified by the quality of this va-

riety, the seeds being extremely shapely and resistant to splitting. Gourmets appreciate the taste of "Piękny Jaś". This variety for its manifold culinary usefulness (for various courses) serves mainly for the preparation of restaurant and home salads. Cookery-books most often mention it and recommend in attractive recipes. In this bean variety consumers appreciate the cooking regularity, which is maintained even in pressure cookers. The typical Polish bean varieties "Bomba" and "Medium" are smaller than "Piękny Jaś", but akin to it by their properties. The purposes, which they serve for in the domestic or restaurant bill of fare are more definite, for they are fit for soup and salads. The bean may be served as a second course, because in addition with various kinds of gravy they yield an appetizing blend. Other varieties as e.g. "Wyborowa" or "Wiejska" also have their distinct properties and cook fast. For that purpose advocates of salads of dainty taste choose bean varieties of tiny, bead-shaped seeds. These latter are preferred also by preserve manufacturers, who consider that they are very useful for processing purposes.

All bean varieties delivered by POLCOOP excel by their guaranteed purity, attaining even 99 per cent, and their humidity grade does not exceed 18 per cent (some times even lower, according, of course, to the variety). The quality of the goods is checked many times, therefore, it does not deteriorate during transportation either by land or by sea. It should be noted, that POLCOOP takes full responsibility for the organization of sea transport, chartering first-class ships for the purpose, according to Lloyd's classification; the ship holds are fully suitable for the transportation of consumable seeds. The customer must not be anxious about transport, because he gets the goods at the right time loco home port. Consignment of carloads of consumable seeds also undergo an additional inspection of the Quality Inspection Office, in order to fully secure the consumers' right.



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## exporter

Poland is sometimes called a country of rye, potatoes and strawberries — it is true that light, sandy soils are appropriate for just such cultivations.

Despite visible changes in the structure of Poland's agriculture, a considerable part of farms located near towns is increasingly introducing horticultural cultivation and is engaged in vegetable production. There are now entire regions where the renowned Polish Wolska onions are grown, but many times larger areas are under strawberry, raspberry and currant cultivation.

The constant increase of the area of strawberry and other berry plantations is favoured by good sale conditions for these fruits offered to plantators. They are members of the Horticultural Cooperatives. The Head Office of these cooperatives has many large, very modern refrigerating plants which are engaged in deep freezing fruits and vegetables, the exports of which have entrusted been by the Head Office to its company for foreign trade HORTEX of Warszawa, Warecka 11 a.

Horticultural Cooperatives grant to their members loans for the setting up and care of plantations, ensure the assistance of instructors in cultivation and guarantee the sale of fruits.

It is a well-known fact that the moderate Polish climate favours the cultivation of potatoes, which in many regions are not threatened by viruses — it is too cold for the development of some plant lice which are the carriers of viruses from sick plants to healthy ones. In Poland it is not necessary to spray in secticidal preparations.





# TF ER XX

## of fresh fruit



The general avoiding of the application of chemical agents on strawberry plantations should not be considered as a proof of their backwardness — the proof of their modernness in their variety make-up.

For the requirements of the processing industry the Faworytka and to some extent the Hanza (Africa) varieties are cultivated. In regions growing strawberries for consumption fresh, until recently Surprise des Halles variety prevailed — today, however the Gorella and Redgauntlet varieties are being introduced in masses there.

The production from an area of almost 25,000 hectares is bought by contract by the government thus its volume, variety make-up and regions may be accordingly dictated. Just as valuable fruit for small farms are raspberries. It is not generally known that the largest single raspberry growing region in Europe is in Poland, in the district of Płońsk, 60 km to the north of Warszawa. With the aim of improving the management of the 8,000 to 10,000 tons of raspberries harvested there, in the centre of that region HORTEx is building the next of its up-to-date cold stores. This will enable the obtaining of yet higher quality of deep frozen fruit.

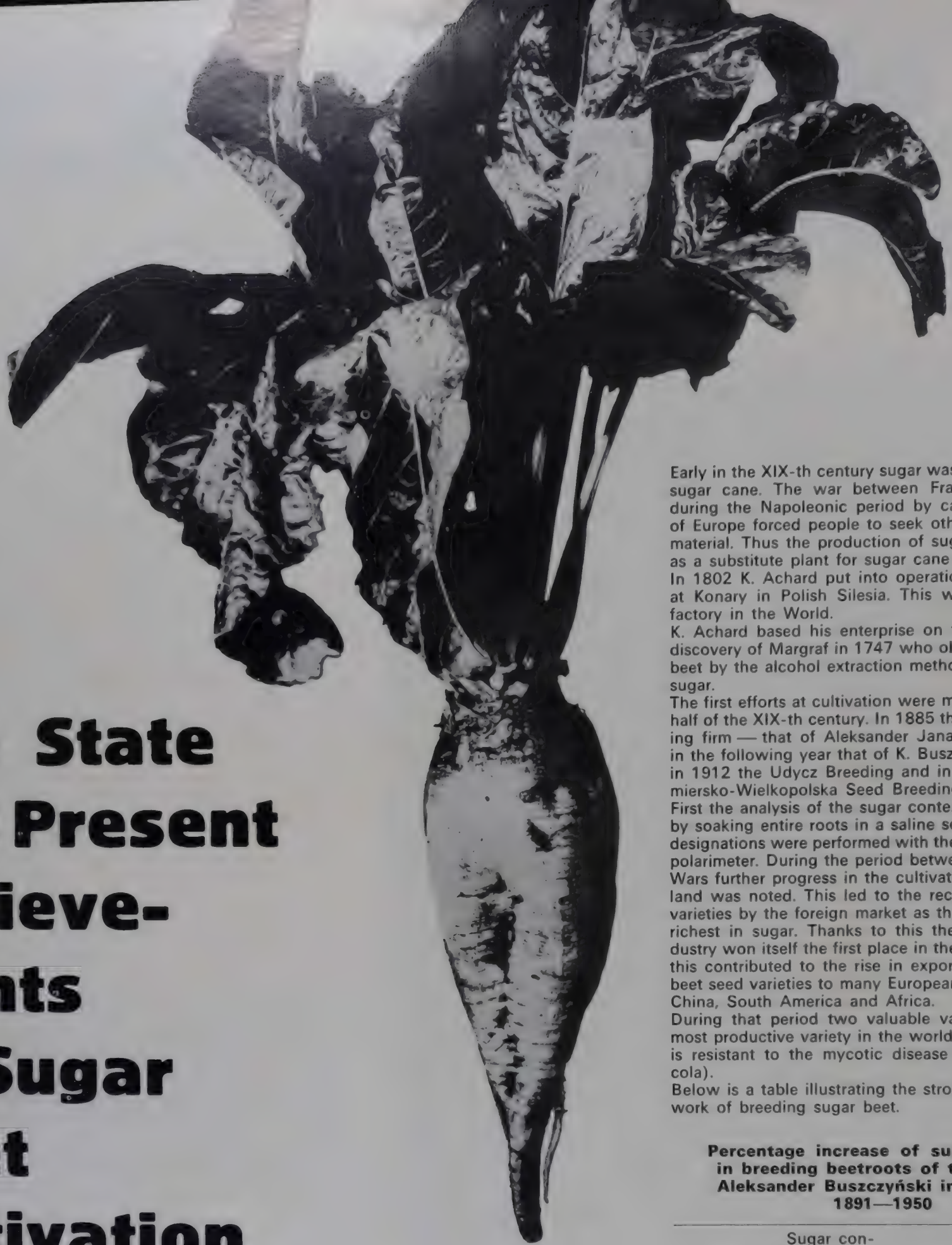
Malling Promise is a generally cultivated variety, but it is not fully adapted to the local climatic conditions and will be, therefore, replaced by other varieties.

Black currant plantations hold third place as far the area under cultivation is concerned.

On the whole, a constant, systematic increase in the area of berry-bearing plants is noted, but strawberries continue to rouse the greatest interest of planters.

*Maciej Ceglowski*





# The State and Present Achievements of Sugar Beet Cultivation in Poland

Władysław Goździewicz

Early in the XIX-th century sugar was made solely from sugar cane. The war between France and England during the Napoleonic period by causing a blockade of Europe forced people to seek other sources of raw material. Thus the production of sugar from beetroots as a substitute plant for sugar cane was started. In 1802 K. Achard put into operation a sugar factory at Konary in Polish Silesia. This was the first sugar factory in the World.

K. Achard based his enterprise on the epoch-making discovery of Margraf in 1747 who obtained from sugar beet by the alcohol extraction method crystalline cane sugar.

The first efforts at cultivation were made in the second half of the XIX-th century. In 1885 the first seed breeding firm — that of Aleksander Janasz — was set up, in the following year that of K. Buszczyński and Sons, in 1912 the Udycz Breeding and in 1916 the Sandomiersko-Wielkopolska Seed Breeding were set up.

First the analysis of the sugar content was carried out by soaking entire roots in a saline solution, later these designations were performed with the aid of a so-called polarimeter. During the period between the two World Wars further progress in the cultivation of beet in Poland was noted. This led to the recognition of Polish varieties by the foreign market as the raw material the richest in sugar. Thanks to this the Polish sugar industry won itself the first place in the world. Obviously this contributed to the rise in exports of Polish sugar beet seed varieties to many European countries also to China, South America and Africa.

During that period two valuable varieties AJ 1 (the most productive variety in the world) and CLR, which is resistant to the mycotic disease (*cercospora beticola*).

Below is a table illustrating the strong progress in the work of breeding sugar beet.

**Percentage increase of sugar content  
in breeding beetroots of the firm of  
Aleksander Buszczyński in the years  
1891—1950**

Years	Sugar content in percentages	Years	Sugar content in percentages
1891—1895	15.33	1927—1931	19.00
1900	15.82	1938	19.64
1910	16.74	1950	21.08
1926	18.35		

# ROLIMPEN





In the years 1960—1970 individual varieties bred in Poland show a polarization of more than 22 per cent. The necessity to further activate breeding work, modernize methods, introduce mechanization of work in the fields and in laboratories, coordinate breeding as a whole led to the setting up of a united state enterprise called Sugar Beet Breeding. It has at its disposal 15 plant breeding stations with a total area of 12,000 hectares, of which eight departments are seed departments.

The Sugar Beet Breeding enterprise in addition to breeding is also engaged in reproduction of seeds within the provisions of contracts concluded with state and private sugar beet planters. Inspectors of sugar beet breeding departments supervise seed plantations from the moment of sowing, cultivation with special care in respect of the guarantee of the wholesomeness of the crops, the storage of biennial rootstock in clamps through to planting in the spring.

The above mentioned departments after buying the beet seeds from planters, dry them to a humidity of 15 per cent and after purification, sell them to individual sugar factories for sowing an area of about 430,000 hectares of sugar beet. The seeds are guaranteed to be a standard value sowing material of the given original variety of high utility virtues.

At present in Poland the following varieties of sugar beet are cultivated:

- multi-spermous variety (a tuft contains 2—5 seeds)  
AJ 3 — AJ 4 and disploid) plant cells contain 18 chromosomes
- polyploid variety (plant cells contain 27 or 36 chromosomes) — AJ Poly 1, A5 Poly 2, A5 Poly came, Sandypoly.

Breeding work on the said varieties is carried on at the Plant Breeding Station at Staszów in the province of Poznań and at the Plant Breeding Station at Śmiłów, in the province of Kielce.

Moreover the Plant Breeding Station at Więclawice breeds the Więclawicki Triploid variety and the Plant Breeding Station at Polanowice the POLY IHAR variety.

Among the basic criteria for the assortment of a variety is the sugar yield per hectare. The efforts of the world leading firms are aimed at finding a method which will permit to eliminate the negative correlation between the sugar content and the root yield. This is a very difficult method but it is applicable, as it is known in the group of A5 varieties the so-called correlation breakers conception.

Due to this very method the world's most productive sugar beet variety — A5 Poly came — was obtained. Another important criterium for the assessment of a variety is the technological value of the raw material. This is expressed by a low content of ash, of nscious nitrogen and a lack of lignification of cells. These elements are very important in the technological process of maximum sugar extraction. Polish varieties — especially of the A5 group — are characterized by very good technological properties of the raw material. And thus in relation to the leading European varieties — Monohil, Polykuhn — Polish varieties have a lower ash content by 0,12 per cent, a higher sugar content by 2.4 per cent. The A5 Poly 1 variety exceeds by 1.6 per cent in the yield of technological sugar per hectare the leading European variety Monohil, at an average crop of 778 q/ha.

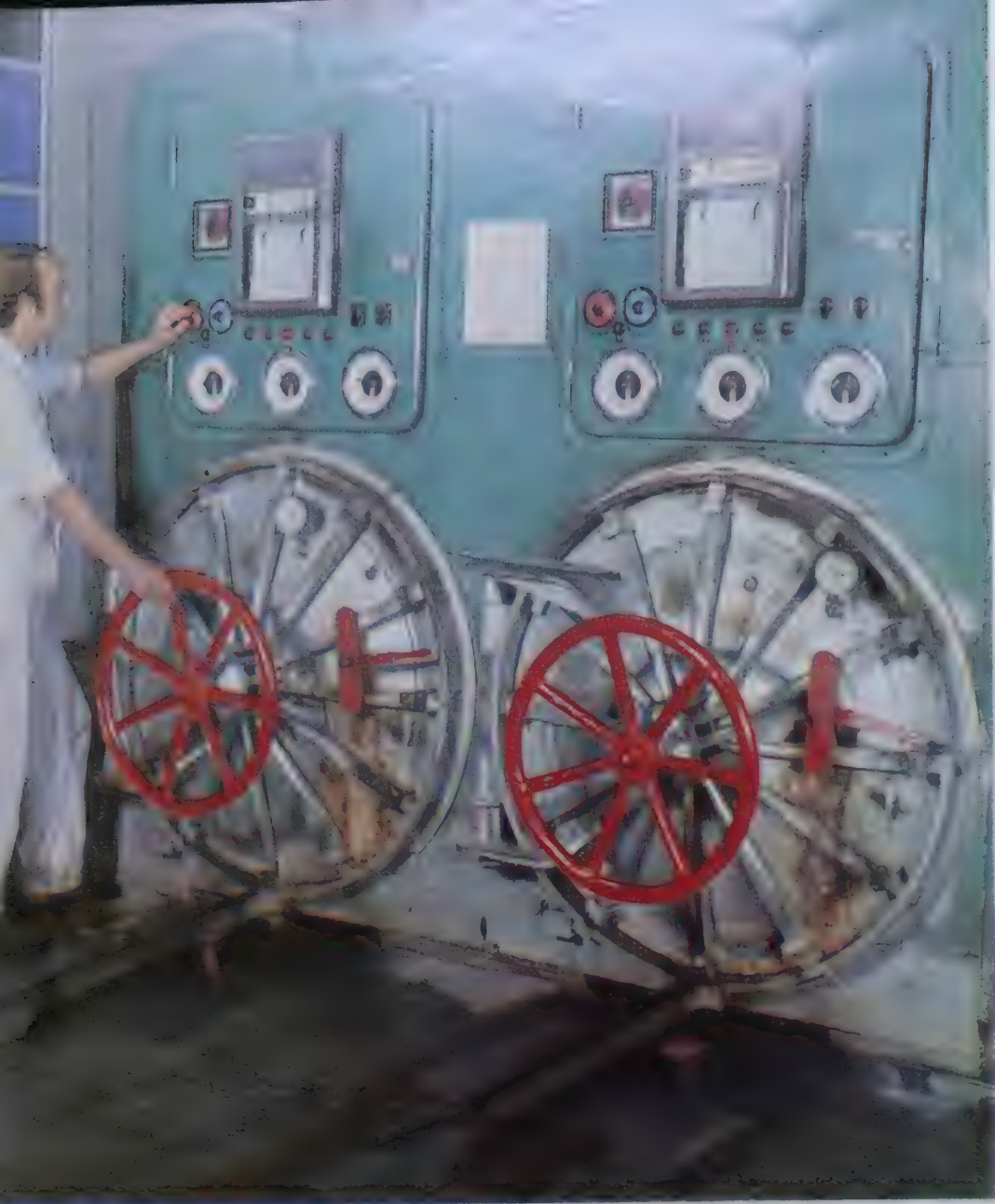
In large sugar beet breeding centres throughout the world breeding work is carried on on genetically monospermous varieties. In sowing multispermous tufts we get 15 times more plants than there should be after thinning. Genetically monospermous varieties limit this number of plants in the field which facilitates the heavy physical work at thinning. At the Sugar Beet Breeding Station at Bydgoszcz there are valuable genetically monospermous initial materials. Two varieties of this type — Mono-tri, bred at the Plant Breeding Station at Zabrodzie and M-69 bred at the Plant Breeding Station at Polanowice — are being worked on.

In the nearest future multispermous varieties will be replaced by genetically monospermous varieties. Sugar beet breeding and cultivation is very labour-consuming and due to a growing lack of farm hands. They call for a thorough reorganization by means of full mechanization of work in the fields and in laboratories.

Today sugar beet varieties of Polish breeding are among the very best on a world scale and exports of seeds, which are handled by ROLIMPEX Foreign Trade Enterprise, are ever increasing and embrace not only such European countries as Italy, Spain, Portugal, Austria, Yugoslavia, Hungary, Rumania, Bulgaria and the Soviet Union, but also such overseas countries as: Morocco, Iraq, Egypt, Lebanon, Syria, Japan and other countries.

# ROLIMPEX







# Ryber

## Herring and other Fish Preserves being prepared acc. to Gdańsk practice

Fish Works in Gdańsk located at 7 Grobla Str. have obtained the II-nd grade reward in Competition of Good Work, having been organized by newspaper „Trybuna Ludu”, Polish TV and Central office of Quality and Measures.

In connection with such a honourable distinction, our Office decided to pay a visit to the rewarded team The Gdańsk.

Works are producing at present the fish preserves from the raw material delivered by co-operative „Jedność Rybacka” (Fishers Unity) which obtains this mainly from the Baltic fishing grounds. Among the produced preserves the first place is occupied by “Herring prepared acc. to Gdańsk practice” this being unpareil in taste and nutritive properties. This preserve owing to its unpareil taste is widely demanded by home and foreign gourmards, and any quantity having been produced is being immediately sold.

The raw herring for preservation is thoroughly selected as concerns its size and appearance, and next after cleaning is properly smoked and pickled. The herrings having been prepared in this way are put into 215 g — cans and poured with oil.

Another valuable preserve is the “Herring in tomato juice”. The juice is produced acc. to many

special recipes depending on contracting party requests.

The Works are producing also many kinds of sprat preserves and among these the “Smoked Sprat” poured with soya-bean oil and packed into 150 g-cans. Another well-known speciality is “Brisling poured with slightly aromatized soya-bean or olive oil. This preserve has an exclusively agreeable taste. Among the large number of sprat preserve assortments there should be mentioned the “Sprat with fruit and vegetables” which obtained the Quality Symbol and has been distinguished by Silver Medal. At production of this preserve the can is filled beside sprat and pickle also with green pea, paprika, Cherry, tomato, onion and others.

These preserves are utilized by the housewives for preparation of occasional meals, sandwiches, lunches and refreshments. There is produced also a popular, cheap and tasty “Sprat in tomato juice”. Many preserves are produced in the Works from highly nutritive mackerel meat. Preserves from this fish comprise “Fillets in oil” of various tastes and sauces.

There is also introduced into production a preserve from the mackerel pure meat which is packed into cans of 125 g capacity with a small quantity of soya-bean oil. This preserve reminds tunny in its taste, but exceeds it from nutritive viewpoint.

The Works are also specialized in production of codliver preserves. This preserve contains the codliver in its own fat with fine additions of various tastes. For example there is being prepared for it a tomato pickle or a soft pickle with mushroom addition. This preserve is a novelty, but already enjoys the customers' favourable opinion.

The Fish Works in Gdańsk started with production almost immediately after the end of World War II. Already in September 1945, being at first very poorly equipped, the Works were producing only small quantities of preserves and assortments. But gradually the team acquired experience and professional skill, while the government on its part had modernized the Works by equipping these with machines and appliances imported from abroad. At present the Works

have the widely developed laboratory and technical bases, which on the home and foreign customers request are able to prepare within a short time the new assortments required of various composition and tastes. The Works team is known for a long time by a solid and good work. It is modelled upon the international principle “Faultless work”.

It is since four years that the Works are carrying on inquiries among the customers concerning the quality of assortments produced. There at a special attention is paid to customers' tastes, as well as to their requirements concerning the sizes and quality of unit packings and their easthetic appearance.

Independently of inquiries, the Works are carrying on the regular control in laboratories; chemical, organoleptic (smell, taste, appearance, etc), microbiological and technical. Also the packing quality is controlled. The special rights has in the Works the Health Service Control, this by the way resulting in the fact that the Works were able to obtain the indicators being below the average sanitary world standard. Beside the internal Health Control, the Works are controlled by the Health Inspector keeping on the spot his own independent post. All assortments produced are controlled by Central Institute of Standardization.

The Works are in co-operation with many scientific institutions in the range of suitability estimation of raw materials being obtained and preserves being produced. By the way they co-operate with Engineering College of Gdańsk Medical Academy, Marine Fisher Institute and Central Laboratory of Fishing Industry. Majority of machines and appliances is regularly exchanged. Such new appliances as production lines for closing and packing, programmed autoclaves, sterilizers are mostly imported from abroad. There are in this group also refrigerators for storage of fresh and chilled fish. The high achievements in production were possible not only owing to modern equipment application, but first of all — to diligence and skillfulness of working team. The quality control is carried out by engineers and technicians

being engaged in Quality Control Service, as well as by workers themselves, controlling their own work, as well as that of their predecessors. For this purpose the majority of workers had been trained on a course concerning the problems of production quality and control organization.

Production continuity allowed for lowering the time of raw material storage. This time — period, beginning from the raw material delivery up to final operation lasts 8 to 16 hours.

Special rights in the Works has the Sanitary Control Service, this placing the Works in a leading position in the world. It should be mentioned that the examination of Baltic fishes and especially of herring and sprat had stated that the average sum of pesticides contained in these fishes is twice as low as that being accepted in p.p.m. units by many countries well known by fish catches and fish preserve production. The calorific examinations had stated that 100 g of preserve contain 250 to 450 cal. (depending on assortment).

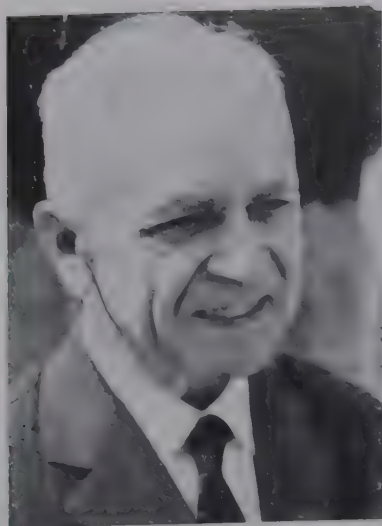
The Works apply a high grade of processing, all raw material obtained being utilized. The meat is utilized for preserves, and bones and other elements are produced for fish flour for agriculture.

Owing to observation of hygiene and sanitary principle the Works obtained a permission for 100 m protective zone, i.e. thrice so low as an average one. For keeping up a high sanitary standard the whole Works are exposed every year within four weeks to repair and general disinfection.

For transport inside the Works the metallic containers are used, being washed and disinfected after every utilization. The raw material, after delivery, is simultaneously washed and separated from ice, and for its transport only the Works own containers are used. The fish preserves being produced in the Works, after having satisfied the home market demands, are delivered to customers in England, German Federal Republic, Greece, Austria, France, Italy, USA, Canada, Australia, to many African and Asiatic countries, to Hungary, Czechoslovakia and Rumania.

Wl. Oryl





**Professor Dr  
Felicjan Dembiński**

Professor Felicjan Dembiński of the Agricultural College in Poznań is a full-member of the Polish Academy of Sciences.

He is primarily an eminent specialist in the line of cultivation and research in oil plants. Rapeseed is of particular interest to him. He is renowned not only in Poland but also abroad and especially in France, the Netherlands, Italy and Great Britain. His papers have met with great response at scientific congresses in countries with a highly industrialized agriculture and rich agricultural traditions and high culture.

Professor Dembiński has exceptional merits in the field of training of young scientific personnel. Under his tutorship hundreds of masters of agricultural sciences and doctors in agriculture have been educated. He is the author of 26 scientific publications, six text books and many articles in the professional press. His booklets and popularized scientific works are often published.

As a distinguished scientist he actively participates in the elabo-

rations of the guiding principles for the new agrarian policy. His advice and suggestions are highly rated in the Ministry of Agriculture, in which he is a member of the departmental council. Professor Dembiński is holder of the highest Polish decorations. In recognition of his research-and-scientific work and of his achievements in the education of scientific personnel, Professor Dembiński was awarded in the years 1960 and 1969 the individual prize of the I-st class of the Ministry of Education and Schools of Academic Rank. F.K.



**Professor Dr  
Eugeniusz Pijanowski**

Profesor Eugeniusz Pijanowski is the holder of the chair of the Department of Technology of the Agricultural and Foodstuffs Industry and of the Institution of Dairy Technology of the Main School of Farming in Warszawa. Moreover, he is a full-member of the Polish Academy of Sciences, vice-chairman of the Kraków Dairy Commission and chairman of the Scientific Council of the Institute of the Dairy Industry. When asked about the trends in research, Professor Pijanowski replied:

In my personal research work during a period of more than 40 years I was particularly interested — especially up to 1939 — in problems connected with the elaboration of analytical methods for butter, on the basis of which it would be possible to improve the control of technological methods. The "dilution coefficient of the butter serum" conception elaborated by us allows us to realize these aims to some degree. Together with Professor Dąbrowski — the renowned expert on dairy problem during the inter two World War periods, associate Professor Matuszewski — who also was a co-worker of Professor Dąbrowski, and Mrs. J. Supińska-Jakubowska, who is today a professor, I participated in the studying of such problems as, for example; characterization of the fat of Polish butter, influence of diseases of the udder upon the quality of milk, characterization and typification of cheese maturation processes (mainly of Edam cheeses), work in problems of aroma in butter and on the newly-discovered *Streptococcus diacetylactis*, the characterisation of cheese of ewe's milk, etc.

During the post-World War II period — the Professor went on — I and my team of co-workers we

are developing research work mainly in the following directions: — characterization of the composition of milk fresh from the cow, primarily from cows giving a high and low yield of milk, paying attention at the same time to the fat content's susceptibility to oxidation;

— the role of some globulins in self-oxidation of fat;

— elaboration of a new technology for rapidly maturing cottage cheese with the application of appropriate tribes of *Oospora lactis* moulds;

— vitamin losses in some dairy products and preventive methods, as well as methods for the increase of vitamin content (of the B group) by biological means. Among the major achievements should be counted our elaboration of formulas for the calculation of the percentage content of fat in standardized cheese-maker's milk and for the calculation of the so-called cheese output. As a team we have some achievements in the line of utilization of whey in the production of concentrates and substitute products. At present, we are developing research into chemical and physical changes in powdered milk and condensed milk.

For more than 20 years we have been trying to influence positively the technical progress in the dairy industry by writing text books, monographies; by the elaboration giving and publication of lectures, including those delivered at dairy congresses in Stockholm (1949), in the Hague (1953), in Rome (1956), London (1959) and a number of others. Moreover, we endeavoured to render accessible the utilization of the result of some of our research work to the dairy industry, especially:

a) the result of research into the durability of butter,

b) the elaboration of the technology of rapidly maturing cottage cheese,

c) the content in milk for processing and for the raw cheese output,

d) the elaboration of a method for measuring the pressure in milk preserved milk cans,

e) the estimation the possibility of vitamin B1 and B2 during the melting process of cheeses, and a number of others.

Poland is a member of a number of international organizations such as Federation Internationale de Laiterie or FAD and I often go abroad to participate in international congresses on dairy problems and other fields of food technology and chemistry. During these trips I have met, and am meeting, many representatives of science in the line of dairy technology and chemistry. I also meet foreign representatives of science in Poland, for example, during events organized by the Polish Academy of Science (mainly the Committee for Food Technology and Chemistry), by the Association of Engineers and Technicians of the Food Industry of the Chief Technical Organization, by the Institute of the Dairy Industry, by the Main School of Farming or other schools of academic rank.

Together with representatives of the Central Board of the Union of Dairy Cooperatives, we have taken up many scientific contacts with leading representatives of science in the line of dairying from various countries. We strengthen these contacts by an ever wider participation of Polish representatives in the work of the Federation Internationale de Laiterie. I am of the opinion, that the contacts already made as well as future contacts will be of many-sided advantage to our rapidly developing dairy industry. F.K.





**Professor Dr  
Mieczysław A. Janicki,**

Professor dr Mieczysław Janicki took up his scientific career as far back as in 1937 when he became assistant at the Chair of Agricultural Technology at the Poznań University. Only a year later he became assistant at the Department for Meat Technology at the Laboratory of the Food Industry in Warszawa, supplementing, at the same time, his education at the Chair of Physiological Chemistry at the University of Warszawa. He started to work on his doctorate. World War II delayed the young scientist's work to later years. He took his doctor's degree as late as 1951.

The thesis of his doctorate was an estimation of the utility of the Puławy swine breed as raw material for the requirements of the meat industry. Apart from the experimental researches carried on, he worked on the elaboration of a universal system of estimation of slaughter animals. For the achievements in this domain, Professor Janicki was awarded the Prize of the Minister of Agriculture. Continuing systematically his scientific research work, he constantly increased his experience. His works have been published both in home and foreign professional periodicals. Apart from Polish professional papers, his works can be often found in such periodicals as "Biochemische Zeitschrift", "Food Science", "Technologia Mięsa" and others.

In 1965/1966 he obtained a scholarship of the Rockefeller Foundation for his outstanding scientific achievements. This enabled him to get acquainted with almost all important scientific centres in the domain of meat science, operating in many countries, among them in the USA, the German Federal Republic, Sweden, France, Denmark, Holland, Great Britain, Italy, Austria and the USSR. During that period and at the occasion of his participation in the annual international congresses of workers of scientific meat institutes, he got acquainted with many leading scientists of those countries. Professor Janicki continues to maintain these useful contacts with outstanding scientists.

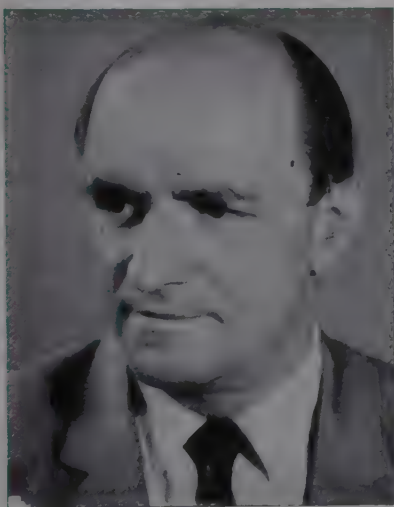
In the middle of 1971 professor dr Mieczysław Antoni Janicki was appointed to the responsible post of Director of the Polish Meat Research Institute.

The Institute is the basic scientific research centre of the Polish meat industry. It is engaged in research work on meat as raw material, on the technology of the meat industry, on the technology of nutrition, biochemistry of meat hygiene and economy of the meat industry. The Institute has already important achievements in the field of modernization of technologies and techniques; it has to its credit a number of inventions concerning for instance a smoke-curing preparation, proteing casing for sausages, interestification of fats and devices

necessary to estimate the quality of meat.

The activities carried on by the Institute at present are concentrated mainly on problems of organization of the raw material base for the meat industry, purchases and transportation of animals and on the impartial estimation of the value of animals purchased. Much attention is being paid to such problems as observing the sanitary rules of the meat and meat processing plants, meat technology, modernization of machinery, installations and meat processing lines, particularly in those plants, where the famous Polish hams are produced. The Institute is carrying on researches on the meat pickling technology and on the reduction of its nitrites and nitrosamines content. Modern physical, chemical and organoleptic methods are applied in estimating the meat.

In order to popularize its own achievements and to avail itself of the experience of others, the Institute cooperates with chairs and institutes of many universities, and in particular, with the Technical Universities of Gdańsk, Łódź, Poznań, with the agricultural colleges and the Main School of Farming in Warsaw, with the Institute of Zootechnics, but above all with the V-th Department of the Polish Academy of Sciences. Much attention is also paid to the problems of direct and indirect packings and to the casings used in the production of various sausages. *Wł. Oryl*



**Edmund Kordyl  
M.Sc.**

The Marine Fisheries Institute has 11 specialized scientific-research centres, three local departments and 475 workers of whom 23 are independent scientific workers. One of the latter is the Director of the Fishery Technology Department, an independent scientific worker, Mr. Edmund Kordyl, M. Sc.

Mr. Edmund Kordyl has worked now for more than 22 years in the Marine Fisheries Institute.

He has concentrated his interest upon problems connected with the development of Poland's fisheries industry. In addition of graduating in Chemistry from the University of Kraków, Mr. Kordyl specialized in selected problems in various countries, including Great Britain, Denmark, the German Federal Republic, France, the Soviet Union and in the German Democratic Republic.

The knowledge which he won there he put to use in his scientific work in the Institute and in Poland's fisheries industry. Mr. Kordyl is the author of many scientific papers and articles. We will mention but a few: "Konserwacja Ryb na Statku" (Fish preservation on board) is the title of a voluminous book published in 1954, "Konserwacja Szprotów przy Pomocy Lodu" (Sprat Preservation with Use of Ice), "Rybak Morski" (The Fisherman) No 33, 1954, "Światowe Problemy Wykorzystania Surowca Rybnego" (World Problems in Putting to Use Fish Raw Materials), "Gospodarka Rybna" (Fisheries Economy) No 2, 1963, "Solenie Śledzi w Ruchomej Solance" (Salting of Hearings in Motorial Brine), "Prace MIR" (The Work of MFI) No 11/13, 1960.

"The present state, perspectives of development and the automation of the freezing technique on

fishing vessels of the Polish People's Republic" — was the title of a lecture delivered by the author at a fisheries symposium in Leningrad. This lecture was also published in the Soviet fisheries periodical "Rybnij Flot" (The Fishing Fleet).

In "Prace MIR" (No 6, 1951) an elaboration entitled "Skład Chemiczny Dorsza i Śledzia Bałtyckiego w Zależności od Stopnia Dojrzałości Płciowej" (The Chemical Composition of the Baltic Cod and Herring depending on the Degree of Sexual Maturity) was also published. In addition to other papers published, of which there are so many that it is impossible to list them, Mr. Kordyl has elaborated more than 38 various instructions and Polish quality standards concerning the yield of raw materials in processing.

Since 1954 he cooperates permanently with the Central Laboratory of the Fisheries Industry at Gdynia with the Marine Building Design Office in Gdańsk and the Shipbuilding Design Office in Gdańsk and elaborates guiding principles in the line of fisheries technologies which should be taken into consideration in the designing of fishing vessels of various types and fish processing plants in fishing harbours. Mr Kordyl was also the chief technologist at the elaboration of the design of the fishing base

at Władysławowo and for some time acted as advisor—and—consultant in the line of fisheries technologies in People's China. He is also Poland's delegate to FAO in matters concerning international standards for fish and fish products, he is member of the Scientific—and—Technical Council at the Central Laboratory of the Fisheries Industry at Gdynia, and since 1967 he is the Ministry of Shipping's delegate and the representative of the Fisheries Central Board in the commission for the coordination of cooperation with international organizations for the standardization of agricultural products and food articles — mainly with the Code Commission of FAO/WHO in the line of fish and fish products.

The considerable scientific achievements and attainments in the popularization in the line of fish processing have placed Mr. Kordyl among the prominent specialists of Polish science. As such he has been invited already a few years ago to elaborate lines of study and guiding principles for the development of Poland's fishing fleet the years 1970—1985 and of the guiding principles for the expansion of the chain of cold stores for the requirements of the fisheries economy as well as the guiding principles for the utilization of by products of the fisheries industry. *F.K.*





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## Chemical agents in agriculture-indispensable but dangerous

What is the purpose of using chemical agents in agriculture? Artificial fertilizers are used to increase crops and replenish the supplies of those substances contained in the soil that are taken up by plants and removed from it during harvesting. Chemical preparations generally known as pesticides are used to protect cultivated plants from pests. They are divided into many groups, the main being insecticides (killing the insects), fungicides (destroying the various fungi) and herbicides (weed killers). Congeneric agriculture provides the most favourable conditions for the development of pests, as insects living on strictly determined varieties of plants thus have an abundance of food available. Destruction of the wild vegetation, the killing of balk weeds, limitation of the area of natural meadows and forests bring in its wake the most severe limitation of the sheltering and survival possibilities of such man's staunchest allies in his battle with phytophagous insects as parasite insects and insectivorous birds and mammals.

According to estimates of specialists, pests and plant diseases account for some 30 per cent of world's crop losses. Were it not for the use of chemical preparations, these losses might well go up to 50 per cent. Chemistry can thus be seen to save a considerable part of all crops. But why not all of them? Well, the truth is that such basic operations as spraying and sprinkling are very often either incompetently performed or come too late, or both. Were these operations to be performed correctly, one could save some 10—15 per cent of crops, but not all them, because, among other things, the insects become immune to the action of toxic substances.

How this immunity originates is yet not known exactly. Tribes of insects immune to a given poison become new immune generations. There are some 250 species of insects in the world today that have become totally resistant to various chemical agents, a half of that number being conspired by pests. In Poland, however, the number of those immunized species is rather small. But it does happen though that on a given field there are potato-beetles insusceptible to the action of DDT, whereas on the adjacent plot potato-beetles are not immune against it. Why is that, is a question which is still difficult to answer at the moment. This undesirable but still mysterious immunization of pests against chemical agents forces us to develop more and more new preparations for use until completely immune species have appeared.

Pesticides have a decidedly harmful influence to water life, the water carrying them over considerable distances. Most pesticides are dangerous to fishes which, for instance, die after coming into contact with DDT or become gravely sick, since that compound damages their nervous system and respiratory organs as well as causes other health disturbances. It is the fry that suffer most. It has been found in the United States and Canada that spraying of DDT has destroyed hundreds of thousands of trouts and salmon.

Pesticides cause severe damage to the whole of animated nature since they are capable of penetrating alimentary canals of living organisms. The scope of these damages is very difficult to assess.

Pesticides belonging to the group of chlorinated hydrocarbons, such as DDT, for instance, are exceptionally stable, their decomposition proceeding at an exceedingly slow rate. Biologists have shown conclusively that these pesticides penetrate readily the alimentary canals of phytophagous insects and accumulate in their organisms and hence enter those of insectivorous animals and then those of the beasts of prey. Organisms of livestock are penetrated by pesticides via fodder and man's organism is entered both with foods of plant origin, contaminated meat and milk.

Changes brought about by the penetration of man's natural environment by chemical plant protection agents are very far-reaching. Although these substances have been in extensive use for just over 20 years, it is estimated that over one million tons of DDT have been scattered round our globe through the intermediary of air, water and freely moving organisms. How many decades will have to pass by for that substance to completely decompose? What influence on man's life and health will have such a contamination of his natural environment with chemical substances? And what about future generations? These are but a few questions which, unfortunately cannot be answered today. Yet, in spite of the most harmful ecological influence that these chemical substances, have, no country can afford to stop using those drastic but rather efficient agents not only from the point of view of increased crops, but also from that of the fight against malaria. Before DDT has been introduced to fight the malarial mosquito, the number of deaths of malaria amounted annually to five million, with some 400 million people being struck by that illness. The number of malaria cases in India has currently dropped from 75 to five million. Hence the position taken by the world health and food organisations with reference to DDT is identical. In the readily foreseeable future one cannot simply stop using chemical agents for plant protection and fighting against insects. There are some ways and means, however, of checking all those harmful effects expounded earlier on, and it is on this very problem that specialists in various countries are working on.

At a symposium organised recently in Prague by the European Economic Commission some 200 scientists, figures of economic and political life representing 30 countries have met to deal with those problems. During the proceedings of the agricultural, forestry and fish economy sections, a great deal was said about the use of chemicals in agriculture. In particular the delegates from the Soviet Union, the United States and the Scandinavian countries gave many examples of the effects of the contamination of man's natural environment with agricultural chemicals, indicating that these are sometimes comparable with those due to industrial pollution.

And now a question arises: to what extent have our organisms and environment become contaminated with these substances?

Investigations carried out in Poland in the years 1965—1970 have shown that amounts of pesticides or products of their decomposition present in our tissues are the same as those found in tissues of other inhabitants of Central Europe. Somewhat less DDT is present in soil and in the tissues of fishes.

The level of chlorinated hydrocarbons in foodstuffs has been controlled for five years now in Poland, special tests on pesticides being run prior to their introduction into the market. The situation is somewhat better today although we are still far away from the ideal in that we have at our disposal some 200 preparations obtained from about 80 basic starting materials, whereas in the Western countries the number of those basic starting materials required for the manufacture pesticides approaches the 500 mark, the commercially available preparations going well up into thousands.

We have had many successes though in the protection of our environment and, consequently, health, seeing that the use of DDT has been forbidden in gardens since 1970, and goes back to even earlier date in the case of the fruit-growing trade. Many other pesticides that have found wide application all over the world, have met with an outright ban in Poland.

Very stringent measures have been already taken to that effect in numerous countries. For instance, it has been forbidden to use mercury compounds for treating grain sown in spring because it caused a tremendous death-rate among birds feeding on grain as well as on the birds of prey, eagles and peregrine falcons dying out in their thousands in Scandinavia. The cause of that terrible tale was due to mercury poisonings as those birds of prey feed on other birds that are only slightly poisoned with mercury, the net result being an increasing concentration of mercury in the organisms of the former. Open waters, marches, ground loam have all been poisoned to a certain extent. A quarter of Swedish lakes is contaminated and it is forbidden to eat the fish caught in them. And it is not solely agriculture that is to blame here, but also the industry which discards its untreated wastes into the lakes.

The dangers of mercury to man's natural environment have also been discussed at some length at the Symposium held in Prague. Methods of reducing those dangers have been indicated. And thus, for instance, in Sweden, seed-corn can be treated with mercury compounds only then when it has been severely attacked by fungi. Hence, it is only 11 per cent of seed-corn that is treated with those compounds, as contrasted with the previously common figure of 80 per cent.

Decisions taken by the Polish government to ensure the safe use of chemical plant protection agents are most aptly exemplified by the well nigh unique law passed last year by the Council of Ministers and concerning the organisation of research in toxicology and the safe use of pesticides as well as the control of their level in food and man's natural environment.

## The rise and decline of DDT

Results of extensive research have revealed that, after nearly 30 years of using DDT in agriculture, health service and for fighting epidemic diseases, all living thing on our globe, — be it a colourful butterfly, potato-beetles, a racing horse or a chicken due to be roasted — contain that very chemical in their respective organisms. Even the most developed mammal such as man has not managed to escape the DDT. It is the fat people who have the largest amounts of the DDT in their bodies, seeing that it accumulates in the adipose tissue in proportion to the overall body weight.

DDT was first synthesised at the end of the 19-th century, and similarly to many other chemical compounds, it had to wait for someone who would investigate its properties and suggest its possible application. In fact, it was Paul Müller, who in 1939 pointed out the incredibly potent insecticide properties of that compound. And that moment marked the beginning of the sensational world career of DDT as an insecticide. In the last war DDT was used by the American Army in the Far East to kill mosquitos, carriers of epidemic diseases and chiefly of malaria. In Italy a large typhoid epidemic was effectively checked. In the hard years of occupation, DDT contributed most significantly to the preservation of hygiene, thus saving many people from imminent death.

In the years after the Second World War, DDT was sprayed from aeroplanes over the Far Eastern malaric swamps of Ceylon, Vietnam, China, Indonesia and India as well as in Africa and America to fight mosquitos and insects spreading the germs of many epidemic diseases. DDT was used to locust, the tse-tse flies carrying the virus of the lethal African sleeping sickness, and other dangerous tropical insects. In almost all cases DDT proved highly efficient and versatile. Nobody, however, did at that time have any notion of those very features becoming most harmful in the future for higher organisms, including man. The victorious march of DDT through our globe thus went on and on.

When the world potato fields had been hit by the onslaught of the Colorado-beetle (potato-beetle) epidemic, it was most natural that the already thoroughly reliable DDT should have been employed to fight it.

The damage done by the potato-beetle was indeed checked, although that small bug has remained a menace until the present day, similarly to other noxious insects and pests. It is thought that some 1.5 million tons of DDT have been distributed in various forms in the world to fight the potato-beetle and noxious insects doing severe damage to the rape and sunflower plantations as well as vegetables and fruit.

# Sundries

# Sundries



The above mentioned quantity however, has proved more than adequate for DDT to enter practically all living organisms, seeing that DDT is readily absorbed by plants and animals. However, before the protests of scientists, were raised, the use of DDT had been indiscriminately widespread, the net result being the poisoning with that compound of soil and water all over the globe. And today, sea fish living in the estuaries of large rivers feed on matter containing some DDT. The extensive use of DDT however, has been paralleled by investigations aiming to establish its influence on higher organisms. More and more scientists were becoming critical of the further use of that insecticide and started pointing out to the fatal effects it has on the human organism.

The alarm raised by the scientific world induced the World Food and Agriculture Organization (FAO) and the World Health Organization (WHO) to put forward a proposal postulating the cessation of the use and production of DDT. The chemical stability of that compound, too, played an important role in fostering that decision, as everybody became aware of the danger to health presented by the fact that DDT does not decompose in the soil or animal organisms over the years and, above, all, accumulates in living tissues.

It was due to all these considerations that the use and production of DDT had stopped in many countries, stringent tests having been accordingly imposed in the commercial world.

And thus, today each food product exported abroad or delivered onto the home market must be tested for its DDT content, the presence of that compound eliminating the given product from the market. The most determined attitude displayed by the said world organisation has stopped in many countries the production of DDT and its use in agriculture, zootechnics, gardening, sanitary prophylactics and health protection.

Poland has been most fortunate to use DDT (Polish commercial name — AZOTOX) in a very careful and controlled manner, the net result being that Polish soil is one of the least DDT contaminated in the world. Admittedly, the beginning of the widespread use of DDT in Poland dates back only to the 1960s and it was not too long before its use has been restricted. Poland was one of the first European countries to develop a plan postulating the systematic reduction of the use and final elimination of DDT. Agriculture was the first to come under that plan in Poland and, save for big potato-beetle onslaughts, DDT has been not used since the beginning of this year. Drastically reduced too has been the percentage use of DDT in other chemical agents and preparations, the organic phosphorus compounds being used instead, e.g. the methoxy-chlorine and gamatox (commercial names). Reel breakthroughs are to be made in the years 1971—1972 in the programme aimed at reducing the use of DDT for fighting the potato-beetle. Complete elimination of DDT from Poland's agriculture is to take place within a few years. In the sanitary service, the use of DDT has been completely abandoned since the beginning of this year, its place having been taken by other substances.

The AZOT Chemical Works at Jaworzyna, Poland's only manufacturer of DDT have stopped the production of DDT and are now manufacturing new, more efficient chemical agents that are less harmful to man and animals.

## Automation and Electrification of Fishing

Fishing vessels built by Polish shipyards enjoy a world-wide reputation. However, the catches of our fishermen are far from the results obtained by the leading countries. The unsatisfactory condition of our fishing equipment is one of the reasons of such a situation. One of the main tasks assigned to the Maritime Fishing Institute was to achieve an improvement in this domain.

Increased research, designing and implementation activity undertaken in recent years in the line of fishing gear and the technology of fishing have already brought numerous appreciable results. Fishing net materials have been improved, especially those made of steelon and other new synthetic fibres. New, more effective, kinds of fishing nets, troll-nets and trawling equipment to suit individual types of vessels and fishing regions have been developed and partially implemented.

With the completion of a catalogue of fishing appliances for 17 and 24 meter cutters the unification and standardization of the equipment have been concluded. This has led to the general application of the most effective equipment. Among problems of a prospective nature it is worth while to mention the research and design work and the investigation of sea fishing with trawling equipment at great depths. Penetration of depths of more than 1000 m below the water surface is ever more generally considered as the area of activity of fishing of the future.

The construction of devices designed to test and to control the performance of fishing gear is successfully being carried on. Looking at the problem from the view-point of their future application, the point is, not to fish at haphazard but for automatic devices to inform the crew of everything that is going on at great depths. Many of these devices have been already designed and some of them have been introduced into the everyday fishing practice. Among such instruments may be mentioned: water-surface and underwater dynamographs, logs measuring the trawl-net opening, recording protractors, logs measuring the travelling speed, underwater cameras and deep sea fish-counting devices. A method for processing data recorded by autonomous analogue instruments has also been developed and a special kit of devices serving that purpose and cooperating with a digital computer as a specialized unit has

been completed. Thus new possibilities in the line of testing and improving of fishing gear and technology of fishing have been created. The installing of computers on industrial fishing vessels is not yet planned for the near future, nevertheless, individual devices and systems will be installed on fishing vessels and, should the occasion arise, produced for export. Research as well design work involving the construction of a special system, cooperating with a digital computer is already in advanced stage. It is earmarked for the „Profesor Siedlecki” research ship which is at present under construction. This system will be a prototype equipment designed for industrial ships and is intended as an element for the prospective system of fishing automation.

It is also worth while to mention that a programme for a wide introduction of electric trawlnets into the fishing practice is well advanced. The fundamental stage of researches has been already completed and at present implementation work is being carried on.

## The Organization of Nurseries in Poland

Since many years the organization of nurseries in Poland aims to create nurseries engaged in large-scale production of fruit trees and fruit shrubs in particular. Ornamental plant nurseries consuming more labour will occupy but a small area because they need first of all more care. Only municipal administration centres own larger nurseries of ornamental plants in view to the great demand for trees and verdure in cities.

The area of fruit tree nurseries amounts to a total of 1 300 ha and in 1969 the production amounted to: 4 285 000 fruit trees 12 mln stocks for fruit trees and 5 677 000 shrubs (among them 446 000 gooseberry shrubs 1 730 000 black currant shrubs 2,862,000 coloured currant shrubs, 590,000 raspberry shrubs and 49,000 other plants).

The material for nurseries is produced by a total of 487 establishments among which 109 belong to State-owned farms, 21 to collective farms and 357 to privately owned farms.

The State-owned nurseries yield 67 per cent of fruit trees, 28 per cent of fruit shrubs and 42 per cent of stocks for fruit trees.

The Union for Garden Seed Production and Nursery is organizing and initiating the production on the basis of planned orchard planting.

The whole production is contracted by the Union for Garden Seeds Production and Nursery. The volume of supplies stipulated by contracts is defined by the Union in mutual consultation with the Presidia of Provincial National Councils and subsequently approved by the Ministry of Agriculture.

Fruit tree nurseries undergo annual classification carried out by Agricultural Departments of Provincial National Councils.

The production of ornamental trees is spread over an area of 600 ha and includes various plantations of deciduous and coniferous trees and shrubs varieties.

The rose production in Poland amounts to 5 mln shrubs being localized 75 per cent in privately owned rosaries and 25 per cent in other farms.

Apart from roses, 80 per cent of the tree and shrub production is concentrated in municipal nurseries subordinated to the Ministry of Municipal Economy. The remaining 20 per cent appertain to State, collective and private holdings.

The production of municipal nurseries is chiefly reserved for the needs of towns and smaller localities and the possible surplus covers individual requirements of the population. In these nurseries 415 varieties of deciduous trees and bushes and 78 varieties of coniferous trees and bushes are produced.

It should be added that data concerning ornamental nurseries do not include nurseries producing trees and bushes to border roads and to plant forest nurseries.

## Polish blueberries sharpen the drivers' sight

Surely, not all our readers know that dr Lubich of Düsseldorf, specialist in the domain of traffic medicine, had stated that the seeing capability at twilight can be strengthened at motorcar drivers through consumption of a greater quantity of blueberries either in the form of jam or compote. A long and intensive looking on during a gradual drop of the day-light results in lowering the looking-on capability, this in certain cases causing catastrophic danger for the driver as well as for traffic.

Researches of dr Lubich had stated that glycosides contained in blueberries favourably and directly influence the seeing sharpness improvement and thereat much better than the medicines having been applied up to the present.

The well-known and highly appreciated blueberry exporter is Foreign Trade Enterprise „Agros”  
Warszawa — Poland, Żurawia 32/34

# Sundries

# Sundries





## Herbs not merely medicinal



The XX-Century world has become "mad" about automation, mechanization, chemization and many other fields of technology typical for our "fast galloping" times.

Fascinated by the fast rate of life and work, we often tend to neglect our health, regeneration of strength, and correct, rational nourishment.

Technical progress and chemistry have encroached on these fields of life as well. Expanding production of foodstuffs containing proteins, vitamins, fats and other nourishing components, supplies us with increasing quantities of foodstuffs and food products from which we prepare our daily meals. But has everything been done to enhance the nourishing, health-giving and appetizing properties of our meals? By no means.

Let us just recall that our grandfathers and great-grandfathers had paid more heed to simple dishes made from natural raw materials than we are doing now. They were better acquainted with, among other things, the properties of herbs used not as medicines, but as indispensable seasonings to improve the flavour and also, perhaps above all, to enhance the influence exerted by food on human organism.

Nearly 50 different seasonings from home-grown herbs were formerly used in Polish cuisine, and undoubtedly contributed to its excellence. This excellence, incidentally, has survived to the present day. This is borne out by, among other things, the opinion of gourmets from abroad visiting our country in increasing numbers.

Scientific research in the field of herbs use as seasonings is conducted at several universities, primarily the Main Farming in Warszawa, the Institute of the Herb Production Industry in Poznań, and certain other advanced schools of farming.

Associate Professor Dr Antonina Rumińska who deals with this research in the Main School of Farming in Warszawa, has told us in an interview:

Scientific research work in herb cultivation was begun in the Main School of Farming in Warszawa in 1950 when the subject "Cultivation of medicinal and special herbs" was first introduced in the Faculty of Gardening. There now exists a Department of Medicinal and Special Herbs in the Institute of Gardening, which deals with biology of these plants and their

The Department cooperates with the Institute of the Herb Production Industry in Poznań and many other institutions concerned with this field.

As regards didactics, the Department conducts lectures and tutorials for undergraduates in the Faculty of Gardening, who have opportunities for specializing in this field and for graduating as masters of science and doctors.

The chief purpose of research in herbs is to find out about their biology, and especially have opportunities for specializing in this field and for graduating as masters of science and doctors.

The chief purpose of research in herbs is to find out about their biology, and especially the variability range of chemical contents, and to work out cultivation methods guaranteeing high crops and top quality. Top quality in this instance means the quality of substances inherent in the plants and determining their value as seasonings, such as flavouring oils, glucoses, bitters, phytins, etc. The impact of skilfully compounded herbal seasonings on human organism is beneficial. Used as seasonings, they also have curative properties and most of them are used in medicine, especially in alimentary canal ailments and metabolic complaints. Substances contained in herbs have properties stimulating secretion of saliva, gastric and intestinal juices, and promoting secretory functions of pancreas and liver. Therefore, they contribute to a more vigorous functioning of the alimentary canal and facilitate digestive processes.

They include a group of plants containing the so-called phytins (garlic, onion, horseradish, carrot, dill, etc.). These have antibiotic properties and act as germ-killers.

Hence the use of these seasonings is medically important.

The Orientals are well aware of this. In view of their hot climate and restricted variety of diet, an important part is played there by root seasonings making their food more pungent, and acting as appetizers. Germ-killing properties of certain flavouring plants are also quite significant in the tropics, where the climate conducive to rapid growth of bacteria.

Polish herbs are renowned on markets of European countries. They are imported by Frenchmen, Germans and Englishmen. The

famous French cuisine owes its supremacy, in part, to seasonings imported from Poland. The list of flavouring plants cultivated in Poland is impressive. Let us enumerate those most widely used: caraway (*Carum carvi*), coriander (*Coriandrum sativum* L.), fennel seed (*Nigella sativa* L.), fennel (*Foeniculum vulgare* Mill), marjoram (*Origanum majorana* L.), sweet basil (*Ocimum basilicum* L.), tarragon (*Artemisia dracunculus* L.), savory (*Saturea hortensis* L.), thyme (*Thymus vulgaris* L.), charlock (*Sinapis alba* L.), paprika (*Capsicum annuum* L.), lovage (*Levisticum officinale* L.), angelica (*Archangelica officinalis* L.), black mustard (*Brassica nigra* L.), Sarepa mustard (*Brassicca juncea* L.).

Apart from the above flavouring herbs, the most often cultivated and used in cooking are: onion, horseradish, parsley, celery and garlic.

The Institute of Gardening of the Main School of Farming in Warszawa is not dealing with the practical use of herbs in industry and medicine. Nevertheless, it collaborates closely with industrial institutes, particularly with of the foods industry, and provides information about the quality of raw materials and their chemical composition. To conclude the present article, we wish to give some practical advice on the use of certain less familiar herbs as seasonings:

sage leaves — excellent seasoning for meat (mutton, veal, beef) and also fish and poultry dishes.

It may also be added to soups (potato, vegetable and pea soups);

lovage — excellent seasoning for sauces, soups and meat;

sweet basil — seasoning for dressings, fish, meat and vegetables;

savory — is added to vegetables, cheese, and above all, to dishes made from pod plants (peas, beans, broad beans);

tarragon — excellent flavouring for — cucumbers, dressings and poultry. It improves the taste of unsalted dishes, and for this reason is very well suited for persons on a diet.

hizop and thyme — seasoning for roasts, vegetable salads and certain soups (primarily tomato soup).

Research on flavouring plants is primarily aimed at improving the taste and quality of Polish food products, and also at expanding the variety range of herbs exported from Poland.

Halina Łapczyńska



# FOOD

*from Poland*

Review of Exports of Agricultural Products and Foodstuffs

No 2(45)





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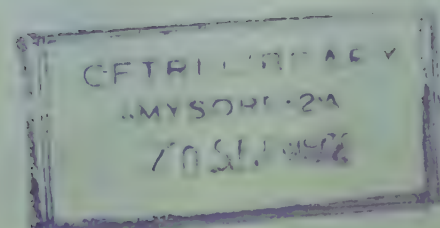
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### Our cover

"Verdure with figural scene in a park" — an Arras tapestry in the collections of the National Museum in Warszawa.  
Made at the Royal Manufacture of Beauvais, France, in the first half of the 18th century  
Size: height 287 cm, width 483 cm. The tapestry shows a group of male and female figures in rural costumes arranging fruit. In the background: a park with fountains and water bodies, seen through a clearance.  
Olive green, brown and sand-coloured hues predominate.  
The arras was incorporated in the collections of the National Museum in Warszawa.  
Photo taken from the original.





The Ministry of Food Industry and Purchases forms a very important link in the entire complex of Poland's food economy. The basic function of this Ministry is the purchase of products produced by agriculture and production of food articles for the supply of the home market and for export. This is connected with the storage of raw materials and of ready products. With the development of integration processes occurring in the food economy, the food industry in some sectors acts as an agricultural producer (industrial fattening, production of broilers) as well as carries out activities in the line of goods turnovers (direct deliveries of food articles to the commercial network). Due to the importance of this problem, the Editors of Food from Poland asked Mr. Emil Kołodziej, the Minister of the Food Industry and Purchases, to answer several questions which may be of interest to our Readers.

The Board of Editors





# Interview with Minister Industry and

## **In the light of the present economic policy of the State in respect of agriculture with what tasks is the food industry faced?**

A characteristic feature of the present economic policy of the State is the acceptance of new developmental proportions, which are expressed by the shifting of means in favour of increased production. As a result of this is the assumption of an intensive development of agricultural production and of the food industry producing consumer goods. In the line of cooperation with agriculture the problems with which the food industry is faced are not limited to an increase in quantitative tasks — but also include the reception of a considerably larger volume of raw materials. The abolition of compulsory deliveries raises the rank of contracts for the supply of products as a basic factor of influencing the structure of agricultural production, on its adaptation to the requirements of the home market and of exports, on the proper regionalization of production, on the assuagement of the seasonal character of the deliveries to the industry of agricultural raw materials.

An important task is to rationalize to a maximum the collection of raw materials from the farmer, to organize it in such a way so that the agricultural producer may need as little time as possible for the sale of his products.

The realization of this task follows three roads:

- the improvement of technical equipment of purchase centres
- the improvement of the organization in the collection
- the development of the direct collection at the peasant farms.

Simplifications in the technique of contracting, which ease matters for farmers, are being

introduced. Also the system of long-term contracts, which create a feeling of stabilization and encourage farmers to invest in the development of production of their choice, is being developed.

The rationalization of the collection of the raw material from agriculture and its proper handling will be facilitated by a marked expansion of the raw material store-room network. For the development of the technical background of the purchase of agricultural products the five-year plan (1971—75) provides for an expenditure, by the government and the main cooperative organizations engaged in purchases, of considerably larger investment outlays than hitherto.

These sums will be primarily destined for the agricultural production background and for milk purchase points.

## **What advantages provides the present revival in agriculture for the farmer?**

The present policy in respect of agriculture will bring primarily a quicker rise in production, an increased yield of marketable agricultural produces and — due to a rise in purchase prices for some products (livestock, milk) — an increase of profitability.

The abolishment of compulsory deliveries will permit to adapt the profile of production to the individual conditions of particular farms; to develop specialization of production and its intensification, and as a result a lowering of production costs and an increase of remunerativeness.

The earlier discussed improvements in the collection of raw materials will save time for the farmers which they will be able to use for work on their farms.



# Mr Emil Kołodziej, of Food Purchase

## **What are the main directions of the development of the food industry in the years 1971—1975?**

I have already emphasized that during the present five years (1971—1975) particular stress is laid on the development of industries manufacturing consumer goods. Thus in the food industry provisions are made for a considerably faster rate of increase in production than in the previous five years (about 25 per cent in 1971—75 in comparison with 17 per cent in 1966—70). The assumed rate of development of individual branches of this industry is not uniform. The fastest increase is planned in industries delivering animal products rich in proteins (meat, dairy, egg and poultry, fish industries) and in the production of fruit and vegetable preserves and of food concentrates. The production level should ensure a rise in the consumption of meat and meat products (including poultry and game) from 52.6 kg per inhabitant in 1970 to about 62 kg in 1975, namely by about 9.4 kg in comparison with 3.4 kg in the previous five years; of fish and fish products from 6.2 kg to 7.6 kg, of fats (including butter) from 20.6 kg to 23.2 kg, of milk and milk products (including milk for the production of butter) from 397 l to 422 l.

The industry will endeavour to widen and render more attractive the assortment of products, to improve the quality of products, to develop the production of ready to serve dishes, which are great time savers and labour saving articles primarily for women.

The improvement of the quality and modernness of packings, which bear a big influence upon the attractiveness of our products — especially on markets abroad, is being also strongly emphasized.

In order to be able to guarantee a proper preservation of the quality of the raw ma-

terial and of finished products and to ensure the adaptation of the supply of goods to the time of the demand on the market, both cold storage facilities and refrigeration plants will have to be greatly developed.

The realization of the tasks with which the food industry is faced urgently calls for a considerable development of the production potential with a simultaneous modernization, the introduction of up-to-date advanced techniques and technologies. At the same time considerable improvements must be introduced in the organization of work both in the processing plants and in the entire economic apparatus.

## **What are the food industry's plans in the line of exports?**

During the present five-years (1971—1975) a further raising of the rank of international trade turnovers, both in the line of agricultural products and of finished products of the food industry, is planned. It is assumed that during the years 1971—75 exports of agricultural products and food articles will rise by about 25 per cent, in comparison with these exports in 1966—1970.

With the aim of adapting ourselves to the tides on the markets abroad and to the needs of the home market, we are expecting a wider scope of exchange transactions (imports for exports).

Of the basic export items may be mentioned: meat products, meat, and cattle for slaughter, sugar, cigarettes and tobacco, rape oil and rape seeds.

The industry will attach great importance to the best possible adaptation of its products to the varied, particular requirements of individual customers abroad, to the constant improvement both of the quality of the products themselves and of their packings.

Wł. Oryl



# Good Outlooks on the Polish Agricultural Market

Andrzej Zalewski

A year has passed since complete changes of the system of economics were introduced into agriculture. The task of these changes was to create better conditions for the development of agricultural production in Poland. It must be admitted that this year brought favourable changes, and in some domains even astonishing ones. Therefore the outlooks for the more distant future are encouraging.

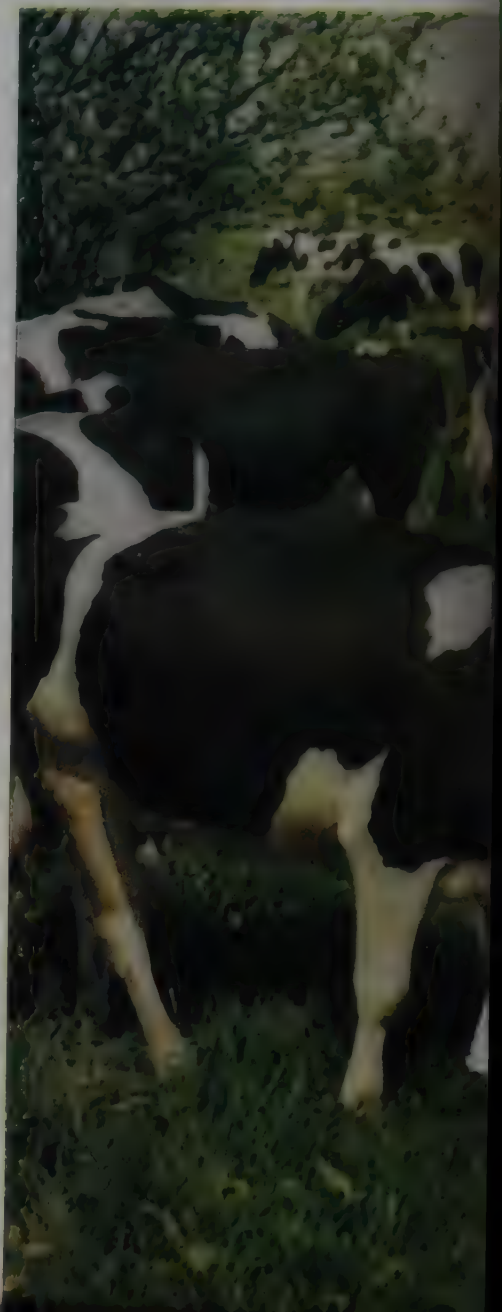
During 1971 the stock of pigs increased by two million head, the corn crops by an average throughout the country of at least four quintals per hectare. At the same time on the village market, in internal turnovers between neighbours, prices of heifers, cows as well as of sows and piglets have remained at a high level with a marked upward tendency. Everything points to the fact that in our country has started a fattening of pigs on an unprecedented scale. This concerns, the so-called "green fattening", namely fattening based on feeding on fresh green — rich in proteins — forage and raising in the open under natural conditions. In many villages just such decisions have been taken, as the small pigsties are filled to the maximum and additional accommodation had to be found but... accommodation with "no roof". It must be admitted that in this domain the know-how of Polish farmers is particularly rich and the porkers raised on such a green fattening cycle provide meat with

taste and which is in demand both on the home and foreign markets.

This clearly visible boom in animal production in Poland is the result of a series of decisions taken by state authorities and systematically introduced since March 1971. Their basis was a plan for a rapid enlivenment of the country's agricultural production.

This plan was elaborated by a group of the most prominent experts in many fields of economy. This plan, which takes into consideration the full and complex application of economic factors in the boosting of the development of agricultural production, has stood the test. A considerable rise in the purchase prices of animal raw materials caused a development of production in this domain and, on the other hand, new laws passed on October 26, 1971 by the Sejm (Parliament) of People's Poland Republic created qualitatively new conditions for the exploitation of agricultural land in Poland. The main element of these laws is the protection of arable land and forest against its inconsiderate exemption from agricultural production and the handing it over for the expansion of towns, industry and of the network of infrastructure. An equiponderant aim is, however, the increase of interest in land on the part of all persons participating in its turnover. In plain words the aim is for land to become a desired by producers means of production.

Another element of this complex plan for livening up the production in Poland of agricultural raw materials was the abolishment, with effect from January 1, 1972, of the so-called compulsory deliveries of meat, grain and potatoes. They were bought often at prices lower than the cost incurred in outlays for materials and were treated by all farmers as a kind of burdensome tax demanding the carrying on of a comprehensive production in individual farms. At present conditions have been created for an intensive application of specialization in many farms both in the line of breeding of porkers as well as of cattle for slaughter. This new tendency will also be favoured by the accepted system of prices for the purchase of cattle for slaughter and of milk, which provides for a higher remunerativeness at a considerable increase in the scope and quantity of that production. From the point of view of foreign trade this is a completely new situation. In Poland favourable conditions have been created for a group of about 400,000 farms owned by peasants, in which during the past 50 years became educated an experienced breeder-and-producer, a man proud of his speciality and still applying traditional feeding and breeding methods in his farm. Obviously these farms have limited possibilities of developing animal production, but hitherto the size








of this production was wilfully limited by farmers and now they are increasing it to the limits of the existing technical possibilities. Thus there exists a new chance of delivering to markets of West European countries a bigger assortment of many animal products, the quality of which is competitive in taste with the production of vast complexes, plants, large pig farms with fully mechanized servicing of the livestock and a full (closed) production cycle.

On the other hand, the at present accepted principle of covering of all shortages of fodder and even of ready products, by imports links us with important world exporters, including exporters of fodder grain. As it is, the slump in the prices on the world market of grain, which occurred during the autumn of the past year, has made possible an increase in imports of fodder — even at a really good home crop of cereals — for an increase in animal production. This is an economically well-founded necessity, as the marked enlivenment of agricultural production in 1971 has created a large stock of biological material in the form of piglets and calves. The raising of this stock and bringing it to full useful weights is a necessity. This is worth emphasizing here considering the situation which is appearing in the European Common Market countries, where the shortage of beef and veal is growing considerably. The initially foreseen size of this deficit for the year 1975 has already been exceeded. This tendency is sure to continue and it is just Poland, with her vast reserves of green forage both in the lowland and piedmont regions, that is becoming already in 1972 an important source of purchases and a big supplier.

Poland is particularly interested in the development of exports of cattle and horses (the latter both slaughter and sport horses). In both these lines favourable changes have occurred. Towards home suppliers and producers requirements have been raised considerably. Also definite specialization regions are appearing — for example the entire Province of Olsztyn will according to plan, very rapidly expand breeding of cattle.

In the domain of pork production considerable progress has been made in the line of meat-and-ham type of pigs, at an appearing drop of interest in the production of bacon. Therefore it is to be expected that the high — on a world scale — quality of Polish ham will be quickly further improved. Also quite new possibilities for export from Poland are being created by the development of sheep breeding. The new prices have brought about a sudden livening up of production and it is to be expected that, at a low interest in mutton on the home market — exports in this line will develop.





# Exports and Imports of Food

Today food no longer plays a leading part in Poland's turnovers with countries abroad.

Its share of the total export does not exceed 15 or so per cent and in imports it amounts to about ten per cent. However, if we take a closer look at this problem we will reach the conclusion that these data do not in fact correspond to the rank held by food in Poland's foreign trade. The comparatively small share of food exports concerns only the total volume and embraces almost all the countries of the world. On the other hand, where economically highly developed countries are concerned, namely countries to which we have been exporting food for many years, Polish exports of food are high. And so, for example, in 1970, according to the data of the Chief Census Bureau, in the total exports to those countries, exports of food amounted to 34 per cent and in exports to some individual markets this figure was considerably higher. The share of these exports to the United States amounted to 56 per cent, to Italy — 49 per cent, to Great Britain — 46 per cent. In the case of some economically highly developed countries the export trends are even on an up-grade.

Here are some figures illustrating in terms of US dollars the food export situation in the years 1969 and 1970 as far as highly industrialized countries are concerned. In 1969 the value of these exports amounted to about 320 million dollars and in 1970 it attained the sum of 380 million dollars. Exports rose by almost 20 per cent. Of these exports the European Common

Market member countries bought goods to the value of 114 million dollars in 1969 and to that of 147, million dollars in 1970. This confirms the proposed thesis, and though the high level of exports attained in 1970 concerns all groups of countries, the greatest rise in terms of absolute figures Poland attained in exports to traditional importers of Polish food. Despite barriers being set up in the form of various demands which food must comply with, as well as of especially fastidious tastes of consumers, Polish food articles, despite strong competition, are winning regular customers.

And what are the trends in the structure of food exports? In 1970 the share of vegetable products in agricultural and food exports amounted to almost 50 per cent, the other 50 per cent were animal products. Despite the appearance of indications that the chances don't look to bright for such articles as: pork, chicken, eggs and egg products, it can be said that this has not weakened the general developmental tendencies of food exports to our traditional customers. Exports of beef, veal and horse meat have especially grown and, in the opinion of businessmen, the future perspectives for these exports seem bright. That is also so as far as ham, meat preserves and bacon are concerned. It is worth to note here exports of young slaughter cattle, heifers and bullocks, exports of which were started in 1964 and which have good prospects for the future.

As a result of the new agrarian policy, will Polish exports of food continue to in-





1. Unloading of cattle (bulls) at the "La Salute" farm in the Province of Venice, where bullocks imported from Poland are fattened. The farm is owned by ISC — Citadella (near Padua), one of the largest Italian firms engaged in trading and fattening young cattle.



2. The firm of ISC is constantly increasing purchases of young cattle in Poland and, as it is expecting a still further rise in purchases, it is regularly expanding its breeding bases in Italy.



3. A rare case of a bull whose hind quarters resemble the shape of the hams of pigs. This is ahead of the highest slaughter yield. Such cattle is in particular demand. In June 1971 at Padua, at an auction of slaughter cattle, ANIMEX and Italian firms exhibited as many as two-hundred odd such heads originating from purchases in Poland.

crease? It seems that this question may be answered in the positive. This appears from an analysis of the home market. Generally speaking, net exports of food from Poland, after the full and adequate satisfaction of the population's requirements, amount to 2.5 per cent of the food consumption in Poland. Here, it should be added, that Poland, as mentioned earlier, is also an importer of some food articles.

It will not, therefore, be wrong to say that exports of animal products in such groups as beef, slaughter cattle, veal and game, have chances of rising. Also prospects for the future growth of exports of ham and the majority of meat preserves seem good.

In the line of vegetable products Poland has a strong position in exports, that is so especially where considerable quantities are concerned in several assortments. Here, contrary to exports of animal products, exports of vegetable products are not limited to a few traditional customers, but have a much wider range. Here special stress deserves the fact that these exports embrace products which are expressly cultivated in large quantities with the idea of foreign commercial exchange. These are such articles as: sugar, rape seeds and oil, potatoes, various seeds, vodkas, fruit and vegetable products and deep frozen products. From this short review the conclusion may be reached that there are the goods and that exports of food from Poland will continue to develop.

Józef Korzeniowski









The MONDE SELECTION competition held in Brussels on September 18, 1971 was the ninth in the history of that organization. We may say with great satisfaction, that also this time the impartial truth about the high quality of Polish food products was again confirmed. In this competition AGROS Foreign Trade Enterprise was awarded two gold and two silver medals for four products. Gold medals were awarded to WODKA LUKSUSOWA (Luxury Vodka) and to preserved cucumber. Silver medals were granted to WODKA PIEPRZOWKA (Pepper Vodka) and KRAKUS Brand black currant compote. We, therefore, now present the medalists.

# ŻUBRÓWKA



## Żubrówka Bison Brand Vodka an Extraordinary Polish Beverage

Among the products of the food industry exported from Poland, alcoholic drinks, strictly speaking, clear and flavoured vodkas occupy a leading place. After World War II, thanks to their excellent quality, Polish vodkas met with general approbation all over the world. A number of factors contributed to their popularity, namely such as: a tradition many centuries old of making vodkas going back to the Middle Ages, the use of exclusively genuine raw materials of the highest quality, the most up-to-date technology, outstanding technologists engaged in this industry branch and, what is not without significance, the aesthetic outer get-up of the products. The assortment of Polish vodkas is very rich and diversified, whereas some of them are nonpareil, for they are made from raw materials existing only in Poland. Żubrówka — Bison Brand Vodka belongs to them. Bison grass (*Herba Hierochloae* var. *Odorata* et Austr.) is the basic raw material of the vodka. This is a wild growing grass appearing exclusively on the forest clearings of Eastern Poland's tracts, but particularly, in the last genuine primeval forests of Europe, in the so-called Puszcza-Białowieska (Białowieża Virgin Forest). It is there that a certain number of bisons live, an elsewhere extinct

variety of European bison, which adore this fragrant grass.

Owing to special measures taken during the harvesting, drying and selection of the grass and to the appropriate technological process applied at the extraction of aromatic components of the grass by means of a twice rectified first-class spirits a high quality semi-product for the production of Żubrówka vodka is obtained.

Wildly growing in natural forest conditions Bison grass has a unique, specific and subtle aroma, giving the Żubrówka vodka its characteristic flavour and taste properties.

Numerous attempts made in many countries to substitute this valuable and unique raw material by artificially grown grass, all the more so by an addition of synthetic flavours, gave negative results and the vodka produced in that way cannot even be compared, as to its quality, with the original Polish product.

In so far as Scotch whisky and French cognac are unique in their kind and beyond competition, so is the unrivalled, original Polish Żubrówka, a product of a quality unattainable in other countries. Its singular nature is additionally emphasized by the





presence of a blade of genuine bison grass in each bottle of original Żubrówka vodka.

The simply unique subtleness of this vodka is perhaps the best described by the brilliant English writer Somerset-Maugham in his novel "The Razor's Edge", in which the author writes that: "... vodka has a taste of fresh hay, spring flowers, tyme and lavender, extremely subtle and soft. When you drink it you have a sweet feeling as if you were listening to music at moonlight..."

This is may be a poet's vision but this vodka is undoubtedly a highly appreciated, favourite beverage for innumerable consumers all over the world.

Żubrówka vodka is a clear, dry, herb vodka of a natural yellow-greenish colour, perfectly smooth taste and pleasant, peculiar aroma.

It is mostly taken well chilled in small liqueur-glasses or poured on ice cubes into old fashioned glasses ("on the rocks").

It also tastes perfectly in the form of mixed beverages or cocktails, namely with an addition of ice, vermouth, rum or tonic water.

Specimens of excellent cocktails which won great popularity are given below:

#### **Bison Sour**

3 oz. Bison Brand Vodka  
 Juice of 1/2 a lime  
 1/2 oz. of Italian Vermouth  
 1 tsp of sugar

Shake with crushed ice, strain into sour glass and serve with a slice of orange.

#### **Moonshine cocktail**

3 oz. Bison Brand Vodka  
 1/2 oz. of Bacardi light rum  
 1/2 oz. of Italian Vermouth

Put over ice cubes in old fashioned glass, garnish with a slice of lemon.

For its unequalled and universally acknowledged high quality, Polish Żubrówka — Bison Brand Vodka won in recent years on International Fairs and Competitions numerous distinctions, silver and gold medals, among others at the Olympics of Beverages in Paris (1967) and at the VIII-th World Exhibition of Wines, Vodkas and Liqueurs in London (1969)

**The sole exporter of  
 Żubrówka vodka-Bison  
 Brand Vodka-is AGROS,  
 Foreign Trade Enterprise,  
 Warszawa, Żurawia 32/34,  
 Poland.**



**O**f the many varieties of plants found in our forests a prominent place is held by the blueberry which is also called whortleberry or bilberry (*Vaccinium myrtillus*). Polish forests are a perfect hot-bed for blueberries. They appear both in lowland forests as well as on so-called mountain blueberry sites, located at high altitudes where already pines do not grow. It is pine forests with a larger admixture of other trees, even those pure stand ones, the poorest from the forestic point of view, that are the richest sources of edible forest fruits. When the pine trees become sufficiently sparse, in a natural way and with the interference of man, then under the none too tight-fitting canopy of tree-tops appears the blueberry. In the following years it spreads, forms clusters and fields, it fructifies ever more abundantly. Thus the blueberry finds the best conditions in pine and pine-and-spruce forests. It is true that the blueberry can be found almost on all the continents of the world, however the climate, soil and biocoenosis of Polish forests are the most favourable to the blueberry. For example, already in Southern Europe it develops only in the mountains. Despite so wide a geographical range even in Poland it is not fully frost-hardy.

The role of the blueberry in the forest habitat is important and the importance of blueberries in the feeding of man is tremendous.

That is why man for some time now has started thinking seriously about the increase of the natural resources of blueberries by cultivation. Blueberries are so highly valued, and the demand for them abroad and at home is so big, that the factor defining the limit of its winning is not the possibility of selling the crop but the yield of the blueberry plots.

Although the assortment of fruits embraced by an organized harvesting has been enriched, blueberries still remain economically the most important of them. The absolute amount of blueberries obtained is generally growing but their share of the total harvest in terms of percentages shows a stability and oscillates around 50 per cent.

#### APPLICATION OF BLUEBERRIES

In the olden days the importance of wine was increased by the conviction that it has curative properties. Even today gourmets and lovers of this "most healthy and most hygienic beverage" may ascertain themselves as to the curative action of this beverage obtained from blueberries. The blueberry not only serves these aims and its career is not limited to the form of wine. What makes the range of the application of this raw material so versatile and wide? Primarily the chemical composition of this fruit. The *Vaccinium myrtillus* contains: 78—86 per cent of water, insoluble parts 3—5 per cent, ash 0.29—0.31 per cent,

nitro-compounds 0.8—1.4 per cent, pectin 0.3—0.7 per cent, acids in terms of lemon 0.7—0.9 per cent, extract 10—11 per cent, glucose 1.82—2.74 per cent, fructose 2.81—3.89 per cent, B-karotene 0.06—0.17 mg%, vitamin B<sub>6</sub> 0.02—0.02—0.10 mg%, saccharose 0.12—0.58 mg%, vitamin C 6.5—44 mg%, vitamin PP 0.05 mg%, vitamin B<sub>1</sub> 0.02—0.03 mg%, vitamin B<sub>2</sub> 0.02—0.03 mg%, carbohydrates 7.0—13.0 per cent, cellulose 1.9 per cent, protein 0.6—0.78 per cent. Of the 0.9 per cent of acids 72 per cent is citric acid, 19 per cent — malic acid, oxalic acid — 0.06 per cent, guinic acid 3.0 per cent. Mineral compounds per 100 g content:

Na 1.2—2.0 mg    Cl 3—16 mg  
P 2.2—13 mg    K 31—99 mg  
Fe 0.4—1.0 mg  
Also Mg, S, Zn, Kob, Mn.

The above given quantities of more important compounds of the blueberry point to a fair amount of nitro-compounds which are a regenerating material and an auxo-substance which enter into the composition of protein substances. Protein as the main auxo-substance is essential for the production of various hormone, enzymes and immunological bodies. The share of carbon compounds determines the content of haemoglobin in blood and the control of blood pressure. Consumption of blueberries contributes to the secretion of digestive juices and increases the degree of assimilability of so-called poorly assimil-



# The Nutritive and Export Career of Blueberries



# SEVERAL EXCELLENT BERRY DISHES

able proteins. Despite the fact that the mineral salts and pectin content in blueberries is small, their role, however, in the feeding of man is considerable. A very interesting feature of cellulose and pectin is the capability of increasing the volume of the food (important for persons on a slimming diet) with the simultaneous absorption of excess juice secreted by the intestines and with it the bacterial secretions. Mineral salts play various part in the human organism but primarily:

- they are a building material of the organism
- they are a regulating factor in keeping the acid-alkaline balance

and lastly are a controlling factor of biological processes. A shortage or wrong mutual proportions of these components may be the cause of serious disturbances in the organism's metabolism. Blueberries contain the mertillin dyestuff which is of particular importance in wine production as it gives the wines a beautiful, intensive colour. The world famous Burgundy and Bordeaux wines are dyed with blueberry must. Tans are of particular importance in the production of dry wines. Apart from their specific, very beneficial activity in the organism, they give the fruit in combination with acids, sugar and other components, the so liked, bitter pinching taste. Because of their properties dehydrated blueberries and blueberry juice are used in therapeutics.

Dehydrated blueberries or blueberry juice make mucosae watertight, prevent tissues from absorbing, appease the viscera, slow down the peristaltic movements of intestines, neutralizes the noxiousness of the decomposition of foods, cure diarrhoeas and are an antidote in cases of poisoning with bad meat. They also paralyze earth-worms and threadworms, which are particularly removed in a mixture of blueberries and tancy flower.

Thus the blueberry is a medication with a wide range of application in medicine and it figures in the "Polish Pharmacopoeia". From this review we already see that the range of application of blueberries is unusually wide, yet this does not close it.

The application of blueberries in industry is exceptionally wide. They may be processed into very many forms. Thus from the fruit of the blueberry shrub are made: dehydrated blueberries, various juices, syrups, jams, marmolades,

compotes, colorized fruit, wines, nectares, pasteurized musts, fruit soups, fruit powders, condensed juices, flavourings for soda-water, novits, cream-jams, cream jellies, bo-bo fruits, confectioner's fillings, pulps, pomaces and especially of late in large quantities deep frozen fruit.

The structure of these assortments in the entire volume of fruit processed is not vital. It is decided both by the demand on markets, by the relative profitability of each of the articles and the nutritive value of the product. For these reasons the deep freezing of the fruit combines almost all the advantages. In recent years deep frozen fruit has obtained absolute priority.

Between 70 and 80 per cent of the mass of blueberries purchased (fresh fruit) is earmarked for export.

The Union of the Fruit and Vegetable Industry destines the majority of processed blueberries for the covering of the demand on the home market and ships, through AGROS, only a part abroad.

Exports in the years 1970—1972 were as follows:

	in tons		
Assortment	1970	1971	1972 (planned)*
deep frozen			
fruit	120	350	750
compotes	58	90	80
pasteurized			
fruit	10	40	220
jams	45	70	100
wines			
(Złoty Róg)	—	—	18
total	233	487.5	1058

\*) contracts already signed with foreign buyers.

These figures prove that exports of blueberry products carried out by key factories of the fruit and vegetable industry have a marked upward trend. The main producers of blueberries are the enterprise LAS and the Central Agricultural Union of "Samopomoc Chłopska" Cooperatives and the main subject of exports are fresh fruit and deep-frozen products. Due to the virtues of blueberries and their products, they are an article willingly seen on many markets of the world and despite considerable possibilities of increasing the harvest and exports, are not always attainable for all.

Stanisław Szewczuk

Their nutritive and therapeutic attributes

Berries in Poland, known for her extensive forests, are the most valuable of the frequently occurring fruit. They grow in dense pine and fir forests especially in mountainous regions.

Berries are a rich, natural source of vitamins: C, A, B<sub>1</sub>, B<sub>2</sub>, PP and pro-vitamin D. Moreover berries contain: organic acids, sugars, tannin and active bodies such as glucoside, vaccinium and glycocin — substances acting similarly to insulin. The therapeutic values of berries are known and appreciated in medicine. Night blindness, a state when sight becomes worse when the light fades is a minor defect in everyday life. It may be a great danger for a chauffeur or aviator. It is known that blue berry jam has been included in the diets of Soviet cosmonauts.

Reports that have been published in Medical World News seem to indicate that berries contain a valuable remedy for this ailment. An active element of blueberries seems to be their pigment anthocyanin. The extract containing this pigment has already been on sale in France and is going through clinical tests in USA. Besides animals, scientists and lorry chauffeurs have been the "guinea-pigs" for these investigations. A positive effect of anthocyanin on improving eye-sight has been confirmed almost in all the cases.

Dried berries or berry juice is also used with excellent results in infectious diseases of the alimentary tract. The nutritive and salubrious and also the industrial properties of berries make them an attractive export article. They are transported by railway, motor cars and by airplanes in special refrigerators and by sea in refrigerator vessels. Special care is made as a guarantee that the importer will receive fresh and sound berries.

Poland also exports frozen berries no less nutritive and retaining their full savour.

Both fresh and frozen berries are very good for preparing many delicious and easy dishes. Owing to their excellent taste, they are also used for preparing all kinds of jams, compotes, juices and red wines.





### 1. Berry soup

1.5 pounds of berries, 2.25 pints of water, 0.25 pound of sugar, 0.5 ounces of corn flour, 1 gill (quarter of an English quart), sour cream and cinnamon to taste. Boil the water with cinnamon, add berries and boil rapidly for several minutes until the berries become soft. Strain the juice, force the berries through a sieve, blend in the corn flour with a small quantity of the chilled berry liquid so that a pap is made, pour the berry juice and pap into a kettle, add sugar and boil. Remove from fire, blend in the sour cream.



### 2. Berry omelette

2 eggs, 1 tablespoon milk, pinch of salt, 5 ounces of berries, sugar to taste, butter for frying. Blend the eggs with milk, add a pinch of salt. Mix the berries with sugar. Melt a piece of butter on a skillet, put in the eggs, and raise the edges of the omelette when frying it to let out the still undone egg under the omelette, until the omelette is fried but not too hard. Put berries on the omelette, roll up and serve immediately.



### 3. Jam pancakes

Dough: 4 ounces pure flour, 1 egg, 0.5 pint milk, pinch of salt. Stuffing: 1 pound berries, 4—5 ounces sugar (to taste). Put berries and sugar into a kettle and boil them on a low fire for about 15 minutes. Wait until they become cold. Sift flour with a pinch of salt into

a bowl, make a small opening in the middle, add beaten eggs, add half of the milk until a smooth mix is obtained, pour in the rest of the milk and beat until little bubbles appear. Put the batter aside for about 30 minutes. Melt a piece of fat on a hot skillet, pour in enough batter, turning the skillet in such a way that a thin layer of batter would cover the entire skillet. When fried, turn and fry the other side. When all the pancakes are fried, spread with the berry mass, roll up and brown every pancake on hot fat. Sprinkle with sugar and serve hot.



### 4. Berry dumplings

Dough: 1/3 pound flour, 1 egg, cold water, pinch of salt. Stuffing: 1/2 pound berries, 1 ounce of sugar. Sauce: 1 gill sour cream, 2 ounces powder sugar. Sift flour with salt into a bowl. Make an opening in the middle, beat in an egg and a little water. Knead a rather soft but not gluey dough. Knead for several minutes, sprinkle dough with flour, and roll thin. Cut rounds of a diameter of about 2—2.5 inches. Wet the edges of the dough rounds. Mix berries with sugar, put about a tablespoon (as dependent on the size of the round) on each round of dough, roll into a semicircle, pinch the edges together tightly. Boil in boiling water with salt for about 5 minutes until the dumplings float out to the top. Strain in strainer, sprinkle with cold water drain well. Serve hot with whipped sour cream and powder sugar.



### 5. Berries with whipped cream

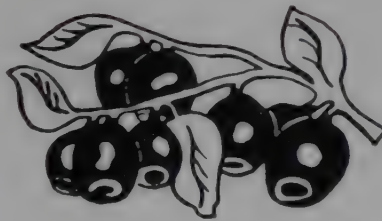
Take 1 gill sour cream and 2 ounces of powder sugar and a vanilla essence to taste for each ounce of berries. Wash berries, drain well,

put on a plate. Whip the cream with powder sugar, add several drops of vanilla essence to taste. Pour over the berries. Serve with butter cookies or lady fingers.



### 6. Berry jelly

0.5 pound berries, 4 ounces of sugar, a clove, grated lemon peel, enough water to make no more than 1 pint (half a quart) together with the juice, 1 ounce gelatin (under the condition that we use the right gelatin keep to the instructions giving the quantity of gelatin for 1 pint of liquid). Crush berries and squeeze out the juice. Measure the quantity of juice. Add enough water to have 1 pint of liquid, add sugar, clove and grated lemon peel to taste, pour into a kettle and heat until the sugar melts. Remove from fire, add berry juice and gelatine softened in a small quantity of water, mix thoroughly. Pour into a bowl.



### 7. Berry compote

2 pounds berries, 8 ounces sugar, 2 pints water, a clove, cinnamon, grated lemon peel, 2 medium sized apples or pears. Wash berries, strain on strainer, mix with sugar and leave in a glass dish for 24 hours so that it would let out the juice. Strain juice. Pare apples or pears, cut into thin strips and boil in water together with the berries, lemon peel, clove cinnamon. After it becomes cool, mix with berry sauce.



### 8. Milk-berry cocktail

1 pint milk, 4 ounces of sugar, 0.5 pound berries, lemon juice to taste. Squeeze the juice out of the berries. Mix milk and juice, add sugar and juice of lemon, mix well and chill.



### 9. Refreshing berry cocktail

1 pound berries, 4 ounces of sugar, breakfast cups of water, 1 breakfast cup of orange juice. Boil water with sugar. Squeeze out the juice from the berries. When water with the sugar is cold, mix it with the berry juice and the orange juice. Serve with ice cubes.



### 10. Forest cocktail

0.5 pound berries, 2 ounces of sugar, 1 tablespoon of dried peppermint, 1/3 pint hot water, 2/3 pint seltzer water, 2/3 pint Vermouth. Put peppermint into hot water and let brew for 15 minutes. Squeeze the juice out of the berries, and mix with sugar and the drained peppermint brew, Vermouth and seltzer water. Chill and serve with an ice cube.



# ZYWIEC

and Other  
Brands  
of  
Beer





In 1971 the total production of beer in Poland topped 11 mln hl and the consumption — 33 l per capita.

Poland reconstructed the breweries destroyed during World War II and modernized the ones in operation. Further reconstruction and erection of modern large plants is carried on at present and planned for the coming years in order to fully meet the growing demand of the home and foreign markets.

Poland has supplied beer in barrels to her neighbouring countries and Italy as far back as the 15-th century. The new exports of Polish beer began at the beginning of the 20th century and embraced Germany, Austria, Russia, the USA and some countries of Africa and Asia. At present the USSR, Romania, Bulgaria, Hungary, Yougoslavia, the USA Great Britain, Italy, Greece, Spain, the German Federal Republic and a number of African countries are the consignees of Polish beer.

Polish export beer is made of the best, carefully chosen barley malts, with the use of hops of the highest quality and water with special properties. Polish beer is characterized by its delicious taste, an abundant, lasting froth and a noble bitterish flavour. The production is run by highly skilled specialists. The technological process applied assures a many months lasting durability, a unique clarity and a thorough saturation with carbon dioxide. Polish beers have been awarded many medals, certificates and distinctions of world beer olympics, international expositions and tasting sessions. With the exception of Grodzisk beer, Polish beer is pasteurized.

Beer is bottled in orange-coloured Vichy-type bottles and in European-type bottles.

The bottles are corked by lithographed caps with a cork insert and foil-leaflet. The bottles are next packed into cardboard boxes adapted — according to necessity — to land or sea transport.



The guaranteed shelf life amounts to six and three months, when stored at a temperature of 2—16°C. For overseas and remote land exports, only beer with a six-month guaranteed shelf life is offered.

It is recommended to serve it at a temperature of 8—12°C.

The most renowned Polish breweries producing for export are: Żywiec, Okocim, Wrocław, Gdańsk and Grodzisk Wielkopolski.

The Żywiec brewery is located in a picturesque mountain valley. Erected in 1856, reconstructed and modernized according to the best standards and world achievements, it produces at present more than 600, 000 hl of beer yearly. A half of that is full light export beer of 12.5°C Balling. It is a Pilsner type beer, thoroughly fermented, of a beautiful golden colour with abundant and lasting froth, a noble and harmonized bitterish taste and a high degree of saturation with carbon dioxide. It contains about 4 per cent of alcohol. The crystalline and soft water from mountain springs used in the production gives the beer an extraordinarily delicious flavour. The beer is supplied in cardboard boxes containing 24 Vichy-type bottles of 0.335 l = 12 oz. capacity or 20 European-type bottles of 0.5 l = 16.9 oz. capacity. By orders of tens of thousands hl yearly the beer may be delivered in packing according to the customer's request.

This beer has won four medals at international beer Olympics: in 1963 in Cologne a silver one, in 1967 in Brussels — a gold one, in 1968 at Nurnberg a gold one and in 1969 in London a silver one.

A similar full light export beer of 12.5 Blg is produced by the Okocim Gdańsk and Wrocław breweries. These beers have a milder taste and differ from each other in taste on account of the chemical composition and source of the water used: at Okocim — filtrated water from a piedmont river, at Gdańsk and Wrocław — water from their own deep wells. The Okocim and Wrocław breweries use malt from their own malt-houses. This malt is also exported to many countries.





At world beer Olympics Okocim beer won a distinction of highest quality in Paris in 1964 and Wrocław beer was awarded a diploma in Brussels in 1965 and a gold medal, also in Brussels, in 1968.

The Okocim brewery also produces for export an excellent strong, dark beer, strongly saturated with carbon dioxide — a porter of 22° Balling. Its alcohol content amounts to about 6 per cent. It has a brown colour and an abundant, lasting froth. It stands out for its exquisite aroma and slightly dry taste; it is clear and refreshing.

It is made of a composition of malts; of Pilsner, München, caramel and tinging malts.

Moreover, the Wrocław Brewery produces for export an excellent dark, strong double beer of 18° Blg, which is a speciality of the brewery. It contains about 4.5 cent of alcohol. It has a dark cherry-red colour, a specific aroma, a distinct specific taste, a noble mildly bitter taste, an excellent clarity and an abundant, lasting froth. It is strongly saturated with carbon dioxide. This beer is produced with a composition of light, München and caramel malts.

It won a silver medal three times: in 1964 at the World Beer Competition in Brussels and at the International Beer Exhibition in Paris, and in 1965 at the World Beer Olympics in Brussels.

The Wrocław brewery bottles its two export beers and the Okocim brewery its porter exclusively in Vichy-type bottles of 0.355 l = 12 oz. capacity.

The Okocim brewery is located in a beautiful piedmont region. Erected in 1945, reconstructed and modernized later, produces at present 700,000 hl of beer yearly.

The Wrocław and Gdańsk breweries date back to the 19th century. Their present production amounts to about 300,000 hl of beer yearly for each brewery.



The Grodzisk Wielkopolski brewery produces a unique in Europe light beer of 7.7° Blg., very pale, known in the world as Grodzisk beer. It contains about 2.1 — 2.4 per cent of alcohol and is thoroughly saturated with carbon dioxide amounting to 0.60 — 0.80 per cent of weight.

It has a very abundant froth, a smoky flavour and a mild harmonized bitterish taste. It is made of wheat malt, smoked with smoke from oak wood, brewed with top-fermentation yeast and special water from their own deep wells.

It is mellowed in bottles, but is not filtered and contains yeast deposited on the bottom of the bottle. It should be transported and stored at a temperature of 2 — 10°C.


This beer is bottled in Vichy-type bottles of a nominal capacity of 0.333 l and full capacity 0.365 l. The bottles are filled to the very cap so that they contain 0.365 l of beer yet are sold as 0.333 l = 11.3 oz.

The beer is a strongly sparkling beverage requiring therefore skilful pouring into glasses. The bottle should not be agitated. Take off the cap carefully, let out the CO<sub>2</sub>, pour slowly the beer on the wall of a cone-shaped high glass, inclining the bottle and the glass to each other. Leave in the bottle the residue with the remaining beer.

M.Sc., eng. Kazimierz Miziolek

**The sole exporter of Polish beer is  
AGROS, Foreign Trade Enterprise,  
Warszawa, Żurawia 32/34.**





# **Polish Industrial Tobacco on Foreign Markets**

**For several years now Poland has been an important producer of industrial tobacco. Due to the expansion of plantations, crops of industrial tobacco, which in the years 1965—70 oscillated within 75,000—80,000 tons annually, are increasing.**



**T**obacco consumption in the form of cigarettes is high in Poland and attains more than 70,000 million cigarettes. We are, therefore in the group of countries with the highest consumption of tobacco per inhabitant. Since recently the production of cigarettes with filter, same as in other highly industrialized countries, is growing.

Due to the development of plantations and the increase in tobacco crops, Poland is becoming an ever more important exporter of industrial tobacco. Exports of this raw material for the production of cigarettes were started in 1957 and the year ended with the figure 842 tons of a value of more than 500,000 US dollars. The biggest buyer of tobacco that year was Belgium, where we shipped 826 tons, to the German Federal Republik 11 tons and to Egypt 5 tons of industrial tobacco.

In 1958 exports of industrial tobacco rose considerably and attained 1,325 tons and were directed to the same clients abroad. In the next year exports of this raw material were somewhat lower, for they amounted to 1,254 tons, which were delivered to four markets, namely to the Belgium, Egyptian, Austrian and West German markets.

During the years 1960—1964 exports from Poland of industrial tobacco fluctuated between 3,215 and 4,489 tons and won new clients and new markets. During those years Polish industrial tobacco was exported already to 11 countries. Though the Belgian market continues to be a big consignee of Polish industrial tobacco, but the circle of importers is growing and the quantities of exported Polish industrial tobacco are increasing as, for example, in 1964 the Soviet Union bought 2,012 tons, the German Federal Republic — 809 tons, the Netherlands — 354 tons and the United States — 34 tons.

The year 1965 was unfavourable for Polish exports of industrial tobacco, as the quantities exported were smaller than in the previous years and amounted to barely 2,532 tons. On the other hand the year 1966 brought Poland's exports of industrial tobacco a very dynamic rise in comparison with the previous year and earlier years. Exports of this article amounted to 5,249 tons, and were, therefore, more than twofold higher than in 1965. The biggest importer in that year was France — the buyer of 2,576 tons. Also the circle of consignees widened, as Polish tobacco appeared on the Swedish, Finnish, Luxemburg and Senegal markets. Senegal imported 100 tons of Polish industrial tobacco.

It should be strongly stressed that the progressing activation of Poland's export of agricultural and food products was concentrated and will continue to concentrate on those branches of export, or speaking more precisely on those articles, the production of which we are able to increase considerably and what follows also exports. Among these very articles is industrial tobacco, the exports of which are growing quantitatively at a simultaneous improvement of quality, while the assortment is adapted to the requirements of customers. This statement is authorized by the fact of a further marked rise in exports which grew from 6,585 tons in 1968 to 8,039 tons in 1970.

A rise in exports results in an increase in the number of buyers of tobacco, for, in addition to

the countries already mentioned Polish tobacco is imported by such countries as Congo, Ivory Coast, the Canary Islands, Switzerland, Syria and lately Zambia.

The most important consignees of Polish industrial tobacco are, however, European countries such as: Austria, Belgium, Sweden, Switzerland, the Netherlands and the German Federal Republic. The latter, in 1970, imported 4,239 tons, or more than a half of our annual exports; Austria — 836 tons and Sweden — 1,097 tons.

Poland exports tobacco to highly industrialized countries. In 1971 a further dynamic rise in exports of industrial tobacco was noted — they attained more than 10,000 tons.

It is worth mention that Poland's tobacco industry exported to the Soviet Union 7,000 million cigarettes with filters in attractive packages.

Poland specializes in the production of appropriate varieties of industrial tobacco. This is connected with climatic conditions, which bear an influence on the production of appropriate tobacco varieties. Such tobacco varieties as Virginia, Skroniowski, Pulawski, Kentucky and Havana are exported.

Virginia tobacco is the variety most in demand and in which an ever wider circle of buyers abroad is interested.

Special interest rouses the variety Virginia 1-st class from the regions of Lublin, Jędrzejów and Leżajsk. That is why the tobacco industry is concentrating the production of Virginia tobacco for export in those very regions.

It should be stressed that the industry has lowered the humidity of tobacco and has improved the manner of sorting so as to eliminate from the 1-st class the previously occurring leaves of a lower quality.

Great interest of customers in the German Federal Republic in the purchase of Virginia tobacco, which has not been chamber fermented, is noted. The strong Skroniowski variety is exported mainly to Sweden and to the German Federal Republic and in small quantities to the Netherlands and Switzerland.

The tobacco industry in the line of improvement of the quality of the Kentucky brand of tobacco made big efforts to improve the sorting of this brand, its roasting, equalization of humidity and its uniformity as far as quality, richness and the length of the leaf, of an even reddish-brown colour, are concerned. For such are the requirements of foreign buyers, who for thus prepared tobacco pay better prices.

The biggest buyers of Havana cigar tobacco are the Netherlands and Belgium, who buy up almost our entire production.

In presenting a short sketch of the development of Polish exports of industrial tobacco we wish to stress the strengthening of the position of Polish industrial tobacco on international markets. It has won itself regular customers who assess positively its quality and the careful preparation of the product.

Mieczysław Stępiński M.S. (Agr)



# High Quality of Polish Products

For the ninth time in the history of the MONDE SELECTION organization medals were handed over to representatives of the makers of products which were awarded prizes in the quality competition and thus have been ranked among the world leading products of the highest standard. During the medal presentation ceremony, which was held in Brussels on September 18, 1971, Polish products, entered in the competition by AGROS and ANIMEX, were mentioned fifteen times. Polish products were awarded a total of six gold and nine silver medals.

# ANIMEX





## High Quality of Polish Products is Again Confirmed

All together 104 gold and seven silver medals were awarded to ANIMEX Foreign Trade Enterprise for the 11 products entered in the competition, namely: Cheddar cheese, salted and unsalted butter, hunter's sausage, deep frozen ducks and geese and canned meat and ready dishes: ham, pork loin, pork in own sauce, chopped pork and chicken in broth. Two gold medals and two silver ones were awarded to AGROS for four products: Polmos WODKA LUKSUSOWA (Luxury Vodka), Polmos PIEPRZOWKA (Pepper Vodka), preserved cucumbers and black currant compote of the KRAKUS brand.

The success is all the greater, as all the products entered by Polish enterprises won medals, and this is an achievement of which not all the 105 firms participating in the competition can boast. Of the 358 prize-winner products a considerable percentage were products

which were awarded bronze medals and many of the products entered in the competition received no prize.

The aim of the since the year 1961 annually organized by the MONDE SELECTION organization quality world competition is to facilitate for the makers the promotion of products which are of an undeniable, impartially verified high quality. Unlike medals awarded to goods exhibited at various international fairs and exhibitions, MONDE SELECTION medals are awarded to products after their having been thoroughly tested and analyzed as to quality. Because of this the effigy of a MONDE SELECTION medal on the packing of an article is for the consumer a symbol of absolute world quality and facilitates him the choice of goods.

Annually the competitions are held in different countries and the



laboratory tests are carried out by recognized research institutions. The examination of foodstuffs bacteriological (50 per cent influence on the general assessment) and organoleptical (40 per cent influence on the general assessment) analyses are carried out. The examination of the commercial value of the packing influences in 10 per cent the general assessment of the product. Gold medals are awarded to products which obtain 90 points of the 100 possible to





obtain, silver ones — for more than 80 points, bronze one — for more than 70 points. Thus the criteria of assessment are very strict and very high quality is guaranteed even by bronze medals. Competitions are held separately for various groups of goods. Thus the competition concerned preserves and animal products:

- beer
- chocolate articles
- corn products and their derivatives

- wines, alcoholic beverages and liqueurs
- tobacco and tobacco products
- and cleaning agents, paints and lacquers.

Entries in the competition flowed in from all over the world, including entries from many renowned firms. This further confirms the high rank of the medals awarded by MONDE SELECTION.

As it is, this is not the first time that Polish products have obtained the

high assessment of MONDE SELECTION. In previous years gold and silver medals were awarded to such AGROS products as: vodkas, beer and vegetable-and-fruit products.

Medals awarded in this years MONDE SELECTION competition are yet another confirmation of the high quality of Polish products, many of which already for a long time have a deserved good name on many markets abroad.

Jerzy Moch





# ZJEDNOCZENIE CHŁODNI SKŁADOWYCH



## Union of Cold Stores

WARSZAWA, SZKOLNA 2/4, POLAND

Phones: 27-09-97, Telex: 813-749, 814-589

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### **The maker of frozen fruits and vegetables as well as frozen culinary products**

We offer the delivery of deep frozen fruits and vegetables such as: strawberries free running and strawberries in sugar, forest wild strawberries, blueberries, black and red currants, raspberries, cherries, calibrated green peas, broken string-beans, spinach, mixed vegetables, tasteadding vegetables, sliced cucumbers. Brussel sprouts, onions and other vegetables as well as briar rose and elder. We deliver frozen ready dishes packed in aluminium trays and semi-products from potato dough too.

The products of our cold stores are of the highest quality standard. They are made without the addition of preserving agents, from raw materials grown under strict agrotechnical supervision. Due to the application of suitable production processes the taste and nutritive properties of fresh products are retained.

Goods are supplied in various types of packings according to offer or buyer's wish. Use is, therefor, tins, multilayer corrugated cardboard cartons, polyethylene bags, multiply paper bags with polyethylene lining and expresso cartons.

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### **Exporters :**

**fruits and vegetables — AGROS and HORTEX**  
**culinary products — ANIMEX and POLCOOP**

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If you want a delicious feast, fully relish the taste, take a Polish young meaty duck, add a little salt, marjoram, good margarine or butter for roasting.

Prepare a sauce for this duck from 40 grams butter, a pinch of flour, pinch of sugar, a minimum of lemon juice with a stock soup to taste. Then pare and cut 4 tart apples. Prepare the young meaty duck for roasting by rubbing it outside and inside with salt and marjoram.

Roast the young meaty Polish duck, basting it frequently with a small quantity of stock soup until it becomes a lovely browngold.

In the meantime, thicken a little meat broth with butter and flour, season to taste with lemon juice and sugar, and add to the sauce just before the duck is roasted.

While the duck is roasting, stew pared and cubed apples in the sauce prepared as above. It takes about 1 1/4 hour to roast a young meaty duck. A Polish young meaty duck, prepared in this way, will certainly satisfy the most demanding gourmet.



# Polish Export

Why is  
a Polish young  
meaty  
duck  
so delicious?



Just as for years past the Polish "young meaty goose" stands for the highest quality on world markets, the Polish "young meaty duck" has also attained for several years past the same quality.

In order to attain the highest uniform quality of Polish young meaty ducks while maintaining natural breeding conditions, excellent taste and low fat content, the "Pekin" breed of ducks has been introduced in Poland. After suitable measures of crossing the "Pekin" breed for over many years under a strict laboratory control of the poultry industry, a duck type was obtained which was very meaty, of a minimal fat cover, hence of high dietetic attributes, of excellent taste and uniform quality. At present this type of duck is produced in Poland in completely natural conditions (extensive breeding). Petty farms are principally engaged in breeding ducks in small flocks in Poland where it is relatively easy to feed them in the Spring-Summer period, which coincides with the period ducks are slaughtered for export (April-September). Ducks are fed with natural fodder in free fowl runs, supplemented by fodder from the root crops and grains.

Poland offers for export young meaty ducks, that is after 8—10 weeks breeding, at weights of the ready drawn carcasses products with giblets from 1.4 kg to 2.3 kg.

To ensure a regular delivery of raw material, the ducks are contracted at individual breeders throughout the country by Egg-Poultry Plants (slaughter houses). Poland produces young meaty ducks only for export because the taste qualities of the meat of young ducks, which is tender and easily digested brings a large demand for this Polish product.

Ducks are slaughtered in about 30 slaughter houses located throughout the entire country.

Selection of ducks when brought for slaughter is carried out carefully and rigorously in the presence of a veterinary doctor. The degree of fattiness of ducks, the color of the carcasses, taste of the meat are scrupulously examined. The results of the examinations are carefully recorded, and all critical remarks are transferred to the breeder. Improper raw material is absolutely eliminated from production and a breeder delivering defective raw material for a second time is





crossed off the list of duck suppliers. Typical slaughter houses in Poland have modern buildings in which are four principal accommodations, namely:

- a) for mechanical removal of feathers
- b) for degutting
- c) for chilling and packing
- d) for freezing.

Equipment in production apparatus is ultra modern, and updated every year, assuring good hygienic conditions to the maximum for production.

The technological process is automated and is carried out on belts. During eviscerating each duck carcass without exception is examined by a veterinary doctor.

Before the ducks are sent out for export, irrespective of the quality control at the plant, they are officially examined by Polish veterinary authorities and by the Polish Quality Inspection Office.

Respective of this, the consignee can order a quality control at his own expense by an independent inspection firm in Poland — "Polcargo".

Poland offers young meaty ducks of "Handelsklasse A" quality according to the following preparation:

- a) eviscerated with giblets (RTC) in weights from 1.4 kg to 2.3 kg
- b) "grill" in weights from 1.1 kg to 2.1 kg
- c) eviscerated with legs and heads in weights from 1.5 kg to 2.2 kg
- d) quartered — breasts of average weight of 350 g and thighs (2 pieces) of average weight of 550 grams.

Polish ducks are delivered in lots of ca 10 tons by freight car, by motor lorries of 15 tons in overland transport and in contractual quantities when transported by sea (as dependent on booking possibilities). There are possibilities of delivering ducks in entire lots according to individual weights, for example 1.4 kg, 1.5 kg or 1.6 kg etc, but only at the request of the client. The goods then should be contracted no later than by the end of April of the given year. After this date, Polish young meaty ducks are offered during the entire year as depending on the stock.

Vacuum bags such as "cryovac", "ho-staphan" etc. are used for the immediate packing of Polish young meaty ducks, with attractive colored marks.

Cardboard boxes of very strong cardboard are used for the outer packing.

The rapid growth of Polish young meaty ducks export began in 1965 and up to 1970 it was as follows:

1965	—	ca 2500 tons
1967	—	ca 3600 "
1969	—	ca 4600 "
1970	—	ca 5200 "

The share of Polish young meaty ducks in the total Polish export of poultry amounted to 14% in 1965, and it already amounted to 38% in 1970.

Poland considers the export of Polish young meaty ducks as being of prime importance, which is expressed in the designation of the highest quality goods for export and also in a very attentive service in respect to the consignees. Poland exports young meaty ducks to many large world markets such as GFR, France, Switzerland, Austria, Canary Islands, England, Near East.

Bogdan Chojnowski

**The sole exporter of  
Polish young meaty  
ducks is: ANIMEX  
Foreign Trade  
Enterprise  
Import  
and Export  
of Animal Products  
Warszawa  
Puławska 14  
Telex Nos: 81491,  
81492, 81493, 81485.  
Telephone Nos:  
45-13-79, 45-13-29.**

# Export of Poultry Products

Poland is a producer and exporter of about 2,000 tons of poultry products annually, which are supplied to West European countries, among them mainly to the German Federal Republic.

Chickens in broth in tins of 1,450 g are one of the principal export assortments. To its production chickens of a minimal weight of 800 g are used. The product is packed in cardboard boxes containing six tins each. The preserves are produced from especially selected, as to size and fleshiness chickens. It is made with an addition of vegetable broth (carrot, parsley, celery, onion) and salt.

The dimensions of the tins are 113 mm × 152 mm. It is planned to introduce new tins of 108 mm × 176 mm in order to ensure that the chicken in the tin is better formed than previously.

The ready product can be consumed in aspic with an addition of lemon, tomatoes or lettuce. It will serve then as an hors-d'oeuvre before the main course or as a snack for a light lunch. It can also be served hot as a main course, particularly recommended for children in kindergartens and schools and for people on diet.

The product's guarantee period amounts to twelve months from the production date. The Polish chicken in broth won a silver medal in Brussels at the 10th Competition organized by the Sélection Mondiale de la Conserverie in the spring of 1971. The examinations of the product comprised bacteriological and organoleptic analyses and the assessment of the commercial value of the packing. It should be emphasized, that gold medals were granted to products which scored 90 points of 100 points possible and silver medals — for more than 80 points. Under these conditions a silver medal granted to a Polish product is a high distinction and a proof of its many-sided virtues.

Chicken in halves in natural aspic are the next production assortment.

Young, especially selected chickens, the carcasses of which weigh 750 g are used to its processing. The tin weighs 500 g and the minimum weight of half a chicken with bones is 370 g. The dimensions of the tins are 160 mm × 106 mm × 42 mm. Cardboard boxes containing 24 tins are used for indirect packing. This preserve perfectly accommodates as a cold hors-d'oeuvre and complies with all requirements of a tourist preserve. It also fully retains the properties of fresh meat.

Poultry ham (Hünchen-Aufschnittfleisch) is a new export product. Unskinned pure meat from the breast and thigh of 8—10 weeks old chick-





ens, without bones and fat, are used for the processing of this new product. This preserve has a high nutritive value on account of its 20 per cent protein content and of large quantities of vitamins, in particular of the B group.

Poultry ham is definitely not a fattening meat, for, normally, poultry meat contains 3 per cent of fat, and some fat is moreover, partially removed from the ham during its processing. For the sake of comparison it is worth while to mention that the dietetic values of the said preserve are similar or even exceed the value of lean veal. Cardboard boxes containing 12 tins are used for indirect packing. The many-sided application of this preserve, in particular when cut in slices suitable for making sandwiches, considerably increases its usefulness in every household.

This ham has, moreover, outstanding taste values on account of the delicate muscle fibres.

**Goose liver** is the next kind of poultry product offered by „ANIMEX”. It is frozen liver, not overfat, packed in small alupac moulds. Each salver contains 200 g of liver. Cardboard boxes containing 69 salvers are used for indirect packing. The liver has particular taste values resulting from the extensive goose breeding.

The Egg and Poultry Plant at Prochowice in Lower Silesia, subordinated to the Union of Egg and Poultry Industry in Warszawa, are the largest producers of poultry products in Poland.

The volume of the plant's production amounts at present to 2,500 tons of poultry preserves yearly both for the home and export markets; of this output 1,500 tons are exported. Production of preserves in the plant was started in 1958 with a volume of 300 tons.

The prospective production plans provide for an increase of preserve production of up to 5,000 tons yearly earmarked mainly for the home market. Among the assortments produced it is poultry ham which will show a dynamic growth tendency; at the same time work for the preparation of new export products will be carried on as well.

The Prochowice plant is being at present modernized; it employs 800 persons, a great many of whom are persons with a thorough theoretical training and considerable practical experience.

Great emphasis is put by the plant on the problem of training of the young staff as the future producers of poultry products.

Ryszard Cudny





# Polish Beef and its Virtues

Polish meat on foreign markets is not only the famous ham or bacon — which are renowned and appreciated since tens of years. It is true that that was so in the past when Poland's entire export of meat was based on pig raw material.

Cattle breeding in Poland during the first half of the twentieth century was primarily directed at dairy production. However, favourable natural conditions and breeding on a large scale, on the one hand, and promising prospects for the sale of beef at home and on the markets of Western and Southern Europe, on the other hand, brought about, in the fifties, the start of the breeding of milk-and-meat type of cattle, which is an excellent slaughter material.

The lowland Black-and-White, Red-and-White and also the Polish Red breeds of cattle found in Poland, though from the point of view of the habit and weight are not comparable with such meat breeds as Aberdeen Angus, Hereford, Shorthorn or Charolais — however when pro-



**Healthy  
Raw Material  
High  
Hygiene  
in  
Production**

Suppliers say that the Meat Industry Factory at Białystok is very choosy when accepting the "goods" delivered. The enterprise's experts and veterinary surgeons examine every animal from the point of view of appearance and health, then it is numbered and if after slaughter it will appear that it was fed on fish meal or maize it will not be passed for processing. Why?

Fish meal — Mr. Edward Sadowski B.Sc. (Eng), deputy director for production, said — saturates the animal's entire carcass with a peculiar smell, which unfortunately cannot be removed. The situation is similar when an animal, particularly a pig, is fed on maize.

This fodder does not leave an offensive smell but after slaughter the meat is slightly stained yellow, and by this loses value as far as consumers and buyers are concerned. The Factory at Białystok abides very strictly by these principles, and that is why its products are recognized as one of the best in the world.

In the Meat Industry Factory at Białystok many assortments are produced. Here are prepared the excellent Polish hams in oblong cans weighing 21, 14, 11 and 10 lbs and in so-called family-size cans of 1, 2 and 3 lbs weight. Into the cans of all sizes is put the best meat cut out from the pig's ham. The meat is demembrated



perly fattened match them as to post slaughter yield as well as the yield in carving.

That is so because of the fine bones of Polish cattle, as well as due to the low fat content (2—3 per cent in comparison with 6—7 per cent in South American or Australian beef). On the side it may be worth noting, that, among other things, it is these virtues of Polish slaughter material bear a vital influence on the great interest of the biggest European buyers of beef in imports from Poland of slaughter and fattened cattle. Obviously the turning to the production of beef had to draw the attention to the improvement of the initial material through a range of measures in breeding, including cross-breeding of milk-and-meat breeds of cattle with high-yield meat breed cattle. This contributes to the constant raising of the commercial value of Polish beef.

Beef exported by Poland is the meat of only young cattle, in principle aged 2 to 2.5 years and weighing about 350 kg to about 450 kg. Eighty to ninety per cent of the slaughter material earmarked for production of export beef is de-

rived from individual farms owned by peasants, who sign contract agreements with state and cooperative purchasing organizations, which place before the breeders high, precisely defined quality demands as to the cattle delivered. Cattle breeding on private-owned farms is carried on in principle in an extensive manner. This causes cattle in Poland to become fit for slaughter later than in countries where beef production is based on intensive fattening of cattle. This has a marked influence on the quality of Polish meat. Research in recent has proved the existence of influence of the animal's age upon the tastiness of the meat. This is expressed by the accumulation in older animals of larger quantities of substances having an influence on tastiness. It is a generally known fact that intensive feeding connected with very large daily increase of meat accumulation leads to the forming of meat with a considerably less intensive flavour and tastiness. In other words, meat of cattle bred in Poland in a none to intensive manner features higher virtues of taste than beef obtained in intensive, speeded up breeding. The latter provides



and its fat is removed and is, obviously, appropriately cured. Moreover, here is produced the famous pork loin in 6 lbs cans, minced pressed ham in 10 lbs cans, specially prepared (mainly according to clients' wishes) pork and beef tongues packed in 6 lbs cans, pork and beef in natural sauce and so-called English goulash packed in 12 lbs tin cans. This goulash is usually made of pork but in many cases (on the client's request) it is also made of beef.

In addition to the but few preserves mentioned, the Meat Industry Factory at Bialystok delivers to many customers abroad raw, freshly chilled meat. Freshly chilled obviously means fresh meat which is chilled

almost immediately after slaughter and appropriate dressing. In this line of export one may point out beef and pork blocks packed in cartons into which the meat is put after deboning, the removal of fat and sinews. The beef in blocks is the meat of young, well fleshed cattle. In the same way prepared beef or pork is also exported in ballots, packed in gauze and jute. Moreover so called beef crops and quarters with bone of the ebra type and beef sirloins are shipped fresh chilled in cartons. Fresh chilled fillets are packed in cartons in the following weight groups: 700 to 1000 grams, 1000 to 1500 grams, 1500 to 1800 grams.

The Meat Industry Factory at Bia-

lystok delivers to its contracting parties also fresh chilled so-called beef bales (without rump and shank), freshly chilled hams without shanks, entire veal carcasses and pluck.

With the exception of all assortments of preserves, all meat and pluck delivered to clients abroad are fresh chilled.

Almost all the meat products prepared here have been awarded quality signs and the dressed meat is considered to be the best. In the all-Poland work competition the Factory for the second consecutive year has won the Premier's challenge-banner.

The entire factory crew, which in



animals with perfect musculature but not always with as high virtues of taste as animals bred by traditional, "closer to nature", methods.

In Poland, in addition to individual suppliers of slaughter cattle, state farms specialize in this line of production. On these raising is also based on natural fodders and the maximum putting to pasturage on rich, sappy grass-lands, which are so plentiful in most parts of Poland.

All the said factors cause that the exported by Poland beef obtained from young cattle — mainly young bullocks and heifers — is remarkable for its organoleptic virtues, which are highly valued by gourmets. These virtues primarily are: tenderness, succulence and flavour — features which add up to the excellent tastiness of Polish meat. Another virtue is the moderate marbling of the meat due to the low intermuscular fat content. The light colour of Polish beef is appreciated on many markets. Where it is permitted to treat beef on a par with veal, from which this beef is but slightly darker, in the opinion of gourmets it is "richer" in taste and flavour.

The comparatively small distance between the place of slaughter in Poland and the ready markets in Western or Southern Europe, permits the delivery to the customer of Polish meat in a state of ideal freshness and retaining its full virtues of taste. This is ensured by a quick, special chilled meat transport system with the use of fast, up-to-date refrigerated vans.

The element of closeness ensures the chilled Polish beef a marked advantage over the meat which is imported to the fastidious European markets from overseas countries. Obviously the slaughtering of the cattle, quartering of carcasses and preparation for export is carried out in establishments which are under the constant supervision of the state sanitary-and-veterinary service as well as of the Polish Quality Inspection Office. This supervision — jointly with the modern outfit of slaughter-houses and processing plants and the highly skilled personnel — ensures that the factories, the production process and the ready article fully comply with the requirements set by the authorities of the importing countries.



Almost 100 per cent has been specially trained, cares for the quality of the assortments produced here. In the veterinary control section alone more than 50 persons work, of whom 13 are veterinary surgeons, 23 are veterinary technicians and 4 are laboratory specialists. It should be noted that the entire veterinary service is not subordinated to the factory management. This gives it plenty of freedom in the examinations and the assessment of the animals supplied and of the entire production cycle. According to the exigencies of the veterinary service the raw material supplied to the factory is the subject of many examinations. For example a farmer when delivering

a head or several animals to the purchase centre must be in possession of a certificate issued by the bailiff that on his farm and in its neighbourhood no infectious diseases have been noted. The proper veterinary examinations, however, start at the purchase centre, where veterinary surgeons examine more closely suspected heads and next before their acceptance to the factory, where the veterinary surgeons take the animal's temperature and pulse, examine their outward appearance and colour. Similar examinations are carried out before the animals are passed into the slaughter hall.

The most careful phase of examinations takes place after slaughter.

All the slaughtered animals are numbered and subjected to a close general examination and their interior organs, particularly their lymphatic glands, are also examined. Veterinary surgeons supervise from the medical point of view the entire production process. Individual veterinary surgeons are responsible for individual production departments in which they follow the production process until the ready product is passed out.

Tasty and good products may be made only by well trained people who have at their disposal appropriate and up-to-date equipment.

As mentioned earlier, almost the



The permission for imports of beef from Poland granted by all the even most fastidious European countries is a clear proof of the positive assessment and confidence in the sanitary and technical standard of Polish meat processing plants handling export beef.

The fulfilment of the entirety of technological requirements and the conformability of the goods with the detailed quality provisions of the contracts is ensured by a state quality control service. The supervision is carried out ex officio by inspectors of the Polish Quality Inspection Office, who, moreover, inspect the means of transportation, especially their cleanness and cooling system before the meat's shipment to the customer abroad.

As already mentioned, as a rule chilled meat is transported in refrigerated vans, without reloading, direct from the meat processing plant to the customer abroad (even in as distant countries as Spain or Greece).

Deep frozen meat is delivered to closer markets by rail (in refrigerator, dry ice, cars) and to far away customers especially oversea ones, in the holds of refrigerated ves-

sels, in which the constant temperature ensures the arrival of the meat at its destination in a perfect state.

In conformity with the practice and customs in international meat trade, Polish beef is exported — according to the client's wishes — in quarters with bones, in halves and also as boneless meat, or boneless elements (carved parts). Meat dressing, removal of fat, packing and other important details as to the quality and look of the article are agreed upon with clients from the point of view of the fullest possible adaptation of the quality parameters to the requirements of individual markets and categories of customers.

**The guarantee of their satisfaction is the great experience in exports of products of the Polish meat industry and of ANIMEX, Foreign Trade Enterprise, Import and Export of Animal Products, which is, among other things, the sole exporter of Polish beef.**

Jerzy Krzyżanowski



entire personnel has been trained in meat processing and hygiene. Of the persons employed about 50 graduated from universities, 175 from secondary technical schools and 55 from secondary liberal educational schools.

With the aim of ensuring for itself an appropriately trained staff, the factory runs its own technical school and catering technical school at the factory.

Moreover, to keep pace with progress in general, courses are organized occasionally for the personnel. Many employees supplement their education at various correspondence studies and at evening secondary schools. These workers

are particularly cared for and enjoy many privileges such as reimbursement of travelling expenses, special leaves, etc. To be up-to-date educationally is very important here, due to the fact that the machines and equipment are constantly modernized, both the home-made ones and the ones imported from Germany, Denmark and France. For example, the equipment for the filling and closing of cans of the Hema-Cameron type is imported from France, and this calls for a constant supplementation of knowledge.

Białystok products and especially processed meat are delivered to clients in the United States, in countries of Central America, in

Great Britain, France, Italy in the German Federal Republic, Spain, in the Canary Islands, Sweden, Greece, Austria, Lebanon, Libya, Gibraltar, Belgium, in the Netherlands, West Berlin and in many other countries.

Many customers from abroad have visited the Meat Industry Factory at Białystok and watched the entire production cycle. They all agreed that a healthy raw material and hygiene in production are a guarantee that the article will be good. The factory crew and Management warmly remember these visits.

Władysław Oryl





HORTEX





# HORTEX—the exporter of semi-processed fruit and vegetables...

The biggest exporter of Polish semi-processed fruit and vegetables is HORTEX. As the name indicates, semi-processed products are earmarked for further production. The HORTEX enterprise offers the following semi-processed articles: fruit pulps, made of strawberries, raspberries, black and red currants, cherries and bilberries. These pulps are preserved with 1—2 pro mille  $\text{SO}_2$  — and are destined for the production of jams and marmolades. Hitherto about 70 per cent of exported pulps is strawberry pulp. Depending on the variety used, this pulp is divided into three commercial groups: 1. "Murzynka" — of an intensive dark colour, 2. "Senga Sengana", 3. various red varieties, and into three quality classes dependent on number of which fruits retained and the fruits' consistency:

- extra class — 90 per cent of whole fruits
- 1-st class — 80 per cent of whole fruits
- 2-nd class — 50 per cent of whole fruits

If the quantity of whole fruit is less than 50 per cent, it is then called mash pulp — and is not guaranteed to contain whole fruits and is destined for marmolade production.

Pulps are packed in oak 180 l barrels the insides of which are paraffinated.

On HORTEX's export list are also raw fruit juices or so-called musts. These musts are pasteurized without the addition of chemical preserving agents, preserved by a physical method and musts preserved with 1—2 pro mille  $\text{SO}_2$  or 4 pro mille formic acid. Must are made of the same fruits as pulps. Pasteurised musts are exported in 25- and 50-litre hermetically closed glass ballons, preserved musts — in oak 180-litre oak barrels. Musts are destined for production of sweetened juices, jellies, lemonades, soft drinks, liqueurs, vodkas and are used as an addition in the making of high standard jams.

In additions to raw juices (natural) HORTEX exports fruit juices in a sixfold concentration. The high extract obtained by the evaporation of water from the juice and high acidity protect the concentrate against fermentation. The main export items are apple concentrate, black and red currant and concentrates made of raspberries, morella cherries and strawber-

ries. Concentrates are made with the assistance of the most up-to-date equipment which permit the obtaining of a high quality ready product. HORTEX exports concentrates with the following extract value: n

- apple 65 per cent
- raspberry — 50 per cent
- black and red currant — 60—65 per cent
- morella cherry — 60—65 per cent
- strawberry — 35 per cent,

the latter, due to the lower extract value is frozen.

Concentrates are packed in polyethylene 115-litre barrels or in 20-litre polyethylene containers. They may be exported also in acid-resisting tank cars or tank trucks.

The destination of concentrates is the same as that of musts. It should be remembered, that storage of concentrates require a smaller storage area and that transportation in glass packings is more economic.

In addition to some-processed fruit, HORTEX exports large quantities of pickled cucumbers and sauerkraut.

Polish pickled cucumbers are famous for their taste virtues which are obtained by means of natural fermentation of lactic acid (without addition of chemical agents) and

of such taste-and-aroma adding spices as dill, garlic and horse-raddish.

Cucumbers, depending on their length, are divided into classes:

- class A — 6—8 cm
- class B — 8—10 cm
- class C — 10—12 cm.

When demanded by clients also larger cucumbers, of 12—15 cm length, may be delivered. They are packed in pine-wood 50-litre barrels containing 32 kg of drained cucumbers and in 100-litre one containing 65—70 kg of cucumbers.

Inside the barrels is a polyethylene bag which prevents leakages during transportation and storage at the consignee's.

Sauerkraut is prepared with a natural fermentation of lactic acid with a 1.8—2.5 per cent addition of white salt. When desired by the client for aroma and taste seasonings are added.

Sauerkraut is packed in 50- and 100/115-litre barrels made of coniferous timber. Inside the barrel is a polyethylene bag.

Also dehydrated vegetables such as onions, carrots, potatoes, celeries, leeks. Onions are sliced, other dehydrated vegetables can be prepared according to the wishes of the buyer, thus they can be cut into cubes, stripes or slices. The humidity of dehydrated vegetables amounts to about eight per cent. Packing consists of cartons with a polyethylene inlet.

HORTEX has at its disposal its own production base and this permits the enterprise to guarantee for the buyers high quality goods and prompt delivery. The use in production of fresh and wholesome fruits, which are cultivated without the application of noxious chemicals, makes possible the obtaining of a delicious taste and natural aroma of the finished product.

Also the control system which embraces the inspection of the raw material, the entire production process the packing and loading of the shipment, forces the entire staff involved to care for the quality of the goods. It is, therefore, not surprising that goods with the HORTEX trade mark find a wide range of ready markets and enjoy the confidence of buyers, and that from year to year the number of clients is increasing and new markets are won.

Danuta Orłowska





# and fruit or vegetable products

HORTEX Company for Foreign Trade of the Union of Horticultural Cooperatives handles not only fresh deep frozen and semi-processed fruits and vegetables but is also an important exporter of fruit and vegetable preserves. The good quality of products made by factories associated within the horticultural cooperative organization is the cause that preserves with the HORTEX trade mark find buyers in many European and overseas countries.

The detailed list of preserves exported at present by HORTEX embraces more than 30 items.

The dynamics and rate of development of preserve exports are best proved by the results attained during the past five years. In comparison with the year 1966 when HORTEX exported a total of 15,100 tons of fruit and vegetable preserves in 1970 this figure rose to 23,300 tons which means a 54 per cent rise during five years.

An especially dynamic rise in exports during the said period HORTEX attained in the following kinds of preserves:

	1966	1970
preserved cucumbers	6,360 tons	12,120 tons
baby beetroots		
in vinegar	1,280 tons	2,880 tons
baby onions		
in vinegar	58 tons	450 tons
compotes	4,420 tons	5,411 tons

The assortment of preserves offered annually by HORTEX to its customers embraces the following items:

1. Compotes made of strawberries, raspberries, black and red currants, blueberries, morello cherries, cherries, greengages, plums, gooseberries, which are made with varying concentrations of the extract depending on the wishes of consignees and the requirements of the given market. HORTEX's offer embraces a wide range of packings, namely.

— jars — 0.22 l, 0.37 l, 0.45 l, 0.72 l, 0.9 l.  
— tins — 0.5 kg, 1 kg, 3 kg.

2. Pasteurized fruits, known in international turnovers as Solid Pack, which are a high quality, preserved by pasteurization, semi-finished product for various branches of the food industry such as, for example, the baker's trade, for making fruit cocktails, ice creams, yogurts, salads, marmolades, jams and jellies, and moreover for direct consumption in catering enterprises such

as hotels, restaurants, camping centres, etc. The basic assortment of pasteurized fruit exported by HORTEX are strawberries, raspberries, black currants, blueberries, plums, gooseberries, brambles. Solid Pack is delivered in 3 kg tins, so-called A-10.

3. Vegetables in vinegar brine made with various tastes and with the application of various technologies of production depending on the requirements of the customers' markets. The main assortment of vegetables in vinegar are: preserved dill cucumbers, gherkins, baby beetroots in vinegar, various kinds of vegetable salads, sliced cucumber salad.

Packings used in the production of this group are:

— 0.45, 0.5 and 0.9 l jars

— and 1 kg, 3 kg, 5 kg and 9 kg tins

4. Pasteurized preserved vegetables in brine with an addition of salt, such as French beans, mixed vegetable and asparagus, packed in:

— 0.45 and 0.9 l jars

— 1 kg and 3 kg tins

5. Vegetables pickled by means of natural fermentation and then preserved by pasteurization such as white and red cabbage, pickled cucumbers.

These vegetables are offered in 0.45 and 0.9 l jars and in 1 kg, 5 kg and 9 kg tins.

Independently of the quantitative rise of exports attained during the past few years, HORTEX's specialization are the sales of articles made according to special recipes and in special packings meeting the tastes of foreign customers. As an example we may mention several assortments which are made strictly according to the client's order and which, due to their excellent quality, top the quality of the locally produced article. These articles have paved themselves a permanent way to customers abroad. The list of these articles includes, among other things:

1. baby beetroots in vinegar — whole and sliced, are traditionally bought by customers in Great Britain, Canada, the German Democratic Republic and Czechoslovakia;
2. specially tinted compotes for clients in Great Britain and Switzerland;
3. baby onions — caramelised — made for the British market;

4. sweetened baby beetroots preserves — this is a special production for the Danish market;

5. pickled cucumbers in a specially sweetened brine for customers in Denmark;

6. sliced cucumber made to the taste of German clients;

7. unsweetened compotes for consignees in the German Federal Republic and in West Berlin.

Among the 25 countries to which HORTEX exports its fruit and vegetable preserves, the most important customers are the German Democratic Republic, Czechoslovakia, the German Federal Republic, Great Britain, Canada, Spain, Denmark, Norway, Switzerland, Austria and the United States.

For a number of years now HORTEX is carrying on a policy of close cooperation with customers who represent important catering organizations. Due to such a policy about 40 per cent of exported preserves is sold in supermarkets and large department stores. Products with the HORTEX trade mark are sold in the commercial network of such renowned firms of caterers as, among others, the firm of J. Sainsbury in Great Britain, the firm of Tesco in Great Britain, the firm of Irma A/S in Denmark, the firm of Steinberg in Canada.

HORTEX's main aims for the near future are the further widening of the range of the assortment of preserves offered, a further development jointly with home suppliers and raisers — of the technical and production base, so as to yet better adapt the existing possibilities to the requirements and tastes of customers abroad.

The horticultural cooperative organization, the goods of which are exported by HORTEX, associates more than 400,000 private plantators, who contract and deliver the fruit and vegetables cultivated by them directly to cooperative processing plants. These are located throughout Poland mainly in the vicinity of the largest raw material bases. Such a localization of production guarantees for the customers the highest quality of products delivered and this, in turn, undoubtedly explains the earlier mentioned high rate of increase of exports of which HORTEX may boast.

Zbigniew Dziedziniwicz



# POLCOOP

The cooperative movement in Poland has good and of long standing traditions.

They are deeply rooted in the consciousness of society and especially of the village community. The achievements in self-government of the cooperative movement and the economic achievements of cooperatives are very big. A part of the goods produced by cooperatives, after satisfying the demand on the home market, is earmarked for export. A tremendous part of the goods — vegetable and animal products — raised by farmers, members of cooperatives, must be sold also on foreign markets.

This very fact was properly assessed when 15 years ago the Government of People's Poland Republic included the Spółdzielczość Zaopatrzenia i Zbytu (Sales and Supply Cooperatives), in the sharing of goods turnovers with countries abroad and granted it an appropriate licence. As a result the Board of Directors of the Central Agricultural Union of „Samopomoc Chłopska” Cooperatives set up POLCOOP Foreign Trade Enterprise. During 15 years POLCOOP grew into an important partner in foreign trade. POLCOOP's importance in the international division of work, when measured in terms of turnovers, during that period is expressed by the sum of 301 million US dollars. The dynamics of the development

of this young partner in foreign trade is proved by the fact that during these 15 years the average annual rise in turnovers amounted to more than 16 per cent.

**But let us allow the Managing Director of POLCOOP, Mr. Mieczysław Szablewski to speak:**

Among the historical first clients and suppliers were members of cooperatives in the Soviet Union, the German Democratic Republic and Hungary. In 1960 we had on our list of customers 50 firms and in 1969 this list increased to 470 firms. Today we have 520 regular customers in 40 European and overseas countries.

Our turnovers increased constantly during 15 years and in 1971 their value attained the sum of 137 million dollars.

**Mr. Director, considering the short period of time these results seem not too bad. But what are the subjects of POLCOOP's turnovers?**

The subjects of our turnovers are primarily agricultural and food products obtained from individual farms the owners of which are associated within the Central Agricultural Union of „Samopomoc Chłopska” Cooperatives. Our exports are of a markedly specialistic character. We specialize in particular in the export of blue poppy seed. In exports of this article we hold first place in the world. We sell abroad edible potatoes and seed potatoes. In these exports we hold second place in the world. We export considerable quantities of fruit and vegetable products. Among other articles as

*Interview with*  
**Mr. MIECZYSLAW SZABLEWSKI**  
*Managing Director*  
*of POLCOOP*



well as seeds for consumption such as: beans, peas and white mustard seeds. Of animal production we export horse meat of which we annually ship more than 18,000 tons, worth seven million dollars. I should like to add here, that this export, which is an outstanding speciality of ours, we adapt to the tastes and requirements of consumers. In the near future we will buy special machines for packing horse meat. Exports of tame rabbit carcasses on an annual scale attain the value of eight million dollars. Next come greatly labour consuming exports, which embrace delicatessen articles destined for consumers with special requirements and tastes. Here

should be mentioned specially fattened livers of geese which are used to make the world renowned Strasbourg paté de foie gras, live edible frogs, live snails, fresh chilled guinea fowls, and for bird lovers canaries with beautiful voices. Moreover, we export also garden peat moss.

**Mr. Director, you mentioned a rather numerous assortment of goods. How does POLCOOP ensure itself the supply of those products?**

Almost the entire mass of goods mentioned comes from our own produc-



# OP

ion background which embraces about 2,080 communal cooperatives. Our cooperation with suppliers is based on annual or long-term contracts for the delivery of goods for export. These contracts are the basis for individual farmers and other suppliers for the carrying on of production for export, and POLCOOP guarantees to those raisers a market for their products. We, as a firm engaged in foreign exchange, consider the agreements signed as a basis and a guarantee of the carrying out the contracts signed with our clients before the season. I may say that only exceptionally bad atmospheric conditions may be the cause of the raiser failing to carry out the contract signed. Luckily this does not happen often. But such things do happen and are circumstances outside our control. We have but one resource. And here are helpful our warehouses where we store the surplus goods which can be stored. Thus for the needs connected with the preparation and punctual shipment of goods abroad, in January 1971 at the disposal of suppliers were put warehouses with a storage area of 7,300 sq.m. These storehouses are in the port of Gdańsk and are thus located at the place of shipment of goods exported. Further warehouses will be put into operation by POLCOOP towards the end of this year. Some of the articles mentioned and exported by us, naturally must be made in special factories or — due to the requirements of the client — be appropriately improved or processed. With this aim POLCOOP has at its disposal 110 fruit and vegetable processing plants, 88 grass and lucerne drying plants, 43 potato storage and packing houses, poppy seed, pease and bean cleaning plants, 22 rabbit slaughter-houses, 12 meat processing factories, 5 horse slaughter-houses, 6 goose fattening stations, 9 poultry processing plants, 10 snail-handling centres, 8 potato flake plants, peat moss plants, 10 deep freezer rooms and many purchase centres for the purchase of export commodities. Such are our modes goods and chattels during the 15 years of our existence. This enables us to year by year better and more exactly carry out the provisions of contracts signed.

**From what we have heard the cooperative specificity of POLCOOP does not appear.**

**Where is the cooperative character of the foreign trade enterprise which you manage?**

First I would like to stress that our foreign commercial turnovers are of an open character. We trade with every one who wishes to trade with us. On the other hand POLCOOP as a cooperative foreign trade enterprise has the task of primarily supplying members of our cooperatives with all implements necessary for production and even for consumption. Thus we carry on, among other things, compensatory trade — goods for goods. In this activity POLCOOP embraces all cooperative organizations of socialist countries, cooperative organizations of Scandinavian countries and of countries in Western Europe. The subject of these transactions are not only food products but also, as mentioned earlier, implements necessary for production, namely tools, equipment and even agricultural machinery. Turnovers with cooperative organizations amount to about one third of POLCOOP's total turnovers, of which sales of agricultural and food products to cooperative organisations of Western countries amount to more than 10 per cent of the goods exported by POLCOOP.

POLCOOP is entering its 16-th year of activities on foreign markets. Both our raw material sources and processing possibilities, as well as the network of warehouses guarantee that the articles exported by us are of high quality and are delivered on time according to the provisions of the contract. Fifteen years of our experiences and of our contracting parties, give us the right to be confident that in the future we will trade even better and more efficiently than hitherto.

Jot-Ka

# 16

## Years of Dynamic Development







## Janusz Trzcianka

**D**eliveries from Poland of agricultural products have been always highly valued. Polish blue poppy seed, for example, is considered abroad as unrivalled. Polish fruit and vegetable products, mushrooms and also horse meat and frozen carcasses of Polish-bred rabbits are articles in great demand. In various groups of goods the volume of these deliveries obviously changes depending on the supply of products on the market. On the whole, however, the appreciation of Polish agricultural and food products and of export enterprises which deliver those goods, stimulates a constant rise in their exports.

POLCOOP Foreign Trade Enterprise of the Central Agricultural Union of "Samopomoc Chlopska" Cooperatives avails itself of about 70 per cent of export production or of purchases in cooperative units. Goods earmarked for export are supplied by own processing plants and deep freezing plants which are located in the centre of regions where orchards and plantations are plentiful. They may without delay accept — and this obviously has a beneficial effect on the quality — for processing or deep freezing freshly picked fruit and vegetables. For POLCOOP's needs also work processing plants which specialize in definite lines such as pickling cucumbers, processing forest fruits — especially mushrooms. A considerable number of processing plants are engaged in the production of meat and meat-and-vegetable preserves as well as of ready-to-serve dishes and deep frozen articles. Among POLCOOP factories an important place is held also by more than a dozen rabbit slaughter houses from where the carcasses are immediately sent to deep freezing plants from where they are shipped directly to clients abroad.

The specially separated within POLCOOP department for the export of animal products is making successful efforts to boost deliveries from cooperative sources of horse meat, rabbit meat, frogs and snails (mainly for the French market) to be able to cope with the big demand abroad for these articles. With this aim considerable means have been invested for the adaptation of eight horse slaughter houses, which match export requirements, and in the expansion of two further ones — thus exports of horse meat by 1975 will attain 15,000 tons. Communal cooperatives have increased propaganda for breeding and purchase of rabbits. This export, which at present covers only 45 per cent of imports on the European market, can certainly be — and will be — considerably bigger as a result of investments made in breeding. At four slaughter houses the Central Agricultural Union of "Samopomoc Chlopska" Cooperatives will finance the setting up of four large rabbit breeding farms.

Another POLCOOP department, which handles exports of vegetable products (fruit and vegetable products, seeds for consumption, mushrooms and forest fruits) also is planning to put to advantage the still further reserves dormant in Poland, with the aim of expanding exports to foreign markets. The drought of the past season and climatic fluctuations of the past few years were not favourable to exports of this group of articles. Despite this fact POLCOOP's exports of vegetable products during the past few years have been increasing.



POLCOOP is showing great interest in work on the cultivation of new varieties of poppy seed and beans. It assists planters in obtaining proper quality seeds for sowing, in finding appropriate areas for cultivation, etc. Exploitation of peatbogs, from which high quality peat moss (sphagnum) is obtained for export, has been developed. Export requirements are influencing the speeding up of the building of new fruit and vegetable deep freezing plants. It is a well-known fact, that the demand for Polish deep frozen fruits and vegetables is constantly growing and that their prices — same as those of POLCOOP preserves — are often higher than of fruit and vegetable products from other sources. Also semi-processed products offered by new and old cooperative processing plants are popular.

The third separate department of POLCOOP is engaged in exports of edible and seed potatoes. At present, these exports embrace about 10 per cent of the total potato production and shipments abroad in individual years are further conditioned by the offer which in turn is dependent on climatic factors. In 1970 POLCOOP exported more than 38,000 tons of potatoes. They were shipped to 37 countries including the home of the potato — South America. Especially the Bintje, Olimpia, Majestra, Wis and Flisak are most valued abroad. POLCOOP is planning to make exports of potatoes more independent of the seasons of the year. An expansion of a complex of potato stores in the port of Gdańsk is being carried out: 29 stores of 300—500 tons capacity and some 200 umbrella roof stores. The taking over from the planters of the sorting of potatoes and the entrusting of this work operation to specialized teams will raise the quality of the goods offered for export. Abroad today have been attained the highest world standards, which are specially stipulated by contracts on deliveries to some markets. These include a minimum, normally unencountered average percentage of dirt, which is several times lower than foreseen by the most strict standards. This confirms the right direction of POLCOOP's efforts for obtaining the highest quality of exported goods.

The fourth department of the enterprise handles imports of potash salts. A full and punctual supply of Poland's agriculture with potassic fertilizers should be considered as a further achievement of POLCOOP during the 15 years of the enterprise's activities.

A characteristic feature of this enterprise is not only a high rate of dynamics in the rise of turnovers, which is attained thanks to the intensive search of possibilities for an increase of exports in branches formerly not duly appreciated by many producers. POLCOOP has enlisted as supporters of its export programme a multitude of specialists of the highest skill, won the confidence of both suppliers and clients by putting into practice the commercial slogan: "what you have not sold or bought yesterday — you can sell or buy today". POLCOOP makes a point to offer goods of the highest quality. POLCOOP, which is known for its adherence to contract commitments and the linking of its own interests with the interests of its customers, during the fifteen years of its activities has been winning renown not only for itself but also for Poland's entire foreign trade.



# The Unusual Adventures of the Common Potato

Potatoes were grown many ages ago by the Incas, an ancient Indian tribe which lived on the territories of contemporary Peru, in South America.

Potatoes came to Europe, to be precise, to Spain and England, at the turn of the XV-th century after the discovery of America by Columbus.

The inhabitants of Europe didn't learn to like this plant for a long time. Neither the green fruit of the plant nor the stem were to their liking. Only few people conceived the idea of eating the tubers. Two hundred years ago, before potatoes found their way on the tables, they went through queer changes. In France, for instance, at the king's court potato flowers had been used as an adornment. Among others, Queen Marie Antoinette, and after her the ladies-in-waiting, put potato flowers in their hair. It is worth while to mention that potato as a plant with decorative flowers has been planted in orchards right next to roses and lilies.

Many years elapsed since those times until potatoes reached Poland. But at last they found their way to our country and became well acclimatized, finding excellent conditions for development and crop yielding.





## Agricultural world production in the Years 1970—1980

From the recently published by FAO perspectives in the world agricultural economy for the years 1970—1980 it appears, that the world agricultural production will increase during that period by 28 per cent and that the demand for agricultural products will grow by 26 per cent. It is assumed that the rate of increase of world agricultural production during the seventies will average annually 2.5 per cent and will, therefore, be somewhat lower than in the past ten years when it amounted to 2.7 per cent. The expected weaker rate of increase in the case — according to FAO's assessment — will be the result of a big drop in the rate of increase of agricultural production in countries with high revenues. On the other hand it is to be expected that the rate of the agricultural production in developing countries will rise. According to FAO assumptions during the seventies agricultural production in those countries will increase at an annual average of 3.3 per cent in comparison with 2.5 per cent during the past decade.

Despite the assumed growth of agricultural production, during the present decade the number of underfed people will be the same as today. The problem of underfed population exists today in 42 countries.

## Food of the future

In 1971 an uncommon food degustation took place in Opatia, the well-known Yugoslavian Adriatic health resort. Two hundred and fifty hotel representatives, chefs and technologists of collective feeding were the tasters who appraised the value of the "Food of the future", guaranteeing to maintain a good figure.

The food, which ensures eating to satiety without causing obesity, had been discovered, after 15 years of experiments, by specialists of the "International General Diet Food Corporation", an organization having its seat in Vaduz, the capital of the Alpine micro-copie Duchy of Lichtenstein. It is no easy matter to embark on the description of particulars concerning the technology of preparation of meals of the future. It is known, that the inventors elaborated a method to diminish the calorific value of the components, which have the greatest effect on corpulence. They managed to obtain from soya bean proteins, carbohydrates free of starch, one of the chief perpetrators of obesity. It is worth while to mention, that the Chinese considered the soya bean as a "holy plant", as far back as four thousand years ago. Amivit, a certain kind of refined soya bean variety, is the basic raw material for new meals. It suits various slimming diets, because it has a very low protein content. Recipes for producing dietetic sugar, margarine and stuffed paprika and other articles have been worked out. The well-known West-German gastronome Bernhard Hoffman, in cooperation with

Yugoslavian specialists, elaborated recipes for 42 meals, which do not cause obesity.

During the tasting at Opatia, cooks present there managed to prepare half that number i.e. 21. Though representatives at the Adriatic hotels found the bill of fare to be rather scanty enough, they highly appreciated the products of the culinary art. It was stated that the success of the new food-stuffs depend on the skill of the chefs. The organization of special courses has been planned for that purpose. It is obvious that obesity is one of the most common unfavourable consequences of civilization — the mode of life and its rising standards. Every day we move less, we need less physical effort, whereas the amount of stored calories increase in the measure as the standard of living rises. The problem of overweight arises always more often in the developed countries of Europe and in the USA. In the German Federal Republic 24 mln persons are overweight, and 2.4 mln suffer from diabetes.

In Yugoslavia, "the food of the future" would be of great use, undoubtedly, for the inhabitants of the Voivodina — an autonomous region, where the percentage of stout people is the highest in the country.

Examinations lasting three years of 600,000 inhabitants more than 35 years old have been concluded of late. The purpose of this mass operation of medical examinations unique in the world, was to early discover "diseases resulting from ways of nutrition". The average overweight of Voivodina inhabitants attains 11—17 kg. In this rich agricultural region women with marked overweight make 45.9 per cent and men 27.2 per cent. The investigations proved, that the Voivodina inhabitants eat too much, that their menu is rather stereotype, without sufficient amounts of vitamins and proteins. The average calorie intake of common people amounts to 2,800—3,200, whereas in Voivodina — 4,470. Representatives of the "heavy weight" are to be found most often among clerks, craftsmen and house-wives. On the other hand, a quarter of the workers and farm-workers might be numbered among the category of "undernourished" people. The heaviest man in Voivodina weighs 190 kg, and a certain teenager 152 kg. The doctors had many inconveniences during the examinations, for the scale on their balances indicated 120 kg at most.

The investigations mentioned above are of great importance for the health service, which stated that there are more diseases caused by obesity than it was presumed hitherto. That is why corpulent people set their hope on the "food of the future".

## Soya bean has prospects for the future

The interest in cultivation of soya beans, which is an enormously rich source of proteins is increasing recently in many countries. In the USA it is being planned to raise the soya bean crops from the present 30 mln tons to 54 mln tons in 1980. According to the opinion of many scientists soya bean could safeguard people against numerous diseases, which take origin in cholesterol, contained in meat, eggs, fat ... Soya bean is considered as a remedy, among other things, against scle-

rosis, eczema, thrombosis, ulceration, etc. The value of soya beans is proved, among other things, by the fact, that 100 gr of soya bean flour contains 465 calories, whereas peas yield 283 calories, beans — 265, rye — 377, wheat 396 calories. One kilogram of soya beans contains as much proteins as 2 kg of beef or 67 eggs, and as to the calorific value it equals 3.5 kg of beef or 57 eggs.

## Something about tobacco

Tobacco is produced in all parts of the world except in the countries of Northern Europe. A characteristic feature of tobacco is that the same kinds or varieties grown on different continents have distinctive properties in use (taste, flavour) and may be rated as different quality classes. Therefore, of fundamental importance to planters, to the tobacco industry and to smokers is the knowledge how its quality features are affected both by environmental conditions and other factors (agricultural technology).

The tobacco growing area in the world amounted in 1966 to a total of 3,730,00 ha; the average crops attained 11.4 quintals per hectare and the supply of tobacco leaves — 4,260,000 tons.

Furthermore, 65 per cent of the harvests of tobacco leaves comes from the USA, the Chinese People's Republic, India, the USSR, Brazil, Japan, Turkey, Pakistan, Indonesia and Bulgaria.

From 1932 to 1966 tobacco production increased by 52 per cent (an increase in area and yield). Poland comes twenty-second in the world as to the area of tobacco plantation, the fourteenth as to the harvests and the fifth as to the crops.

With regard to exports and imports of tobacco, it might be worth while to mention here that the world turnover of tobacco tops 1,100 million dollars annually and shows a constantly upward trend.

In a majority of countries the tobacco turnover is handled or controlled by the State or by monopolies. Taxes imposed on tobacco articles all over the world are providing an important source of income for the State.

In Poland, tobacco production and turnovers are organized and controlled by the Union of the Tobacco Industry and Tobacco Works. The cultivators interests are represented by the Union of Tobacco Planters which, moreover, popularises among tobacco planters the most recent achievements in the field of production of different tobacco varieties. The Union cares to supply them with necessary production means, stipulates regionalization requirements, classification rules and purchasing prices for tobacco leaves.

In accordance with the decree of June 24, 1953, on tobacco and the manufacture of tobacco products, only farmers who signed production and supply agreements are authorized to cultivate tobacco. Agrotechnical as well financial assistance is granted to cultivators of this plant in the form of:

1. assurance that their plantations will be cared for by specialists of the tobacco industry
2. grant of short-term loans of up to 10,000 zlotys, charged with 3 per cent interest per annum and long-term loans for the purchase of building materials

3. supplies of tobacco seeds free of charge

4. guarantee to purchase the supplied tobacco leaves at fixed prices.

Furthermore, the Union of Tobacco Planters organises the training of farmers cultivating tobacco.

And one information more about tobacco. Medical science has proved unquestionably that tobacco smoking is very noxious. Nicotine is considered to be the main cause of diseases induced by tobacco smoking. Therefore, in many countries intensive research is carried with the aim of producing a nicotineless tobacco variety. Scientists of the Institute of Cultivation, Fertilization and Pedology at Pulawy obtained a great success in this domain.

Dr. Jan Berbec, Head of the Special Plant Section in cooperation with Mr. Edward Drzasa, M. Sc. (Eng.) head of the analytical laboratory, has cultivated a tobacco hybrid. It has been named "Sybilla". Last year farmers planted this tobacco on 60 ha area. A crop of 100 tons of leaves was obtained and 1 million cigarettes were produced from them. A pilot batch was manufactured at the Radom Works. Unfortunately the taste of nicotineless cigarettes differ from the taste of standard ones. It is intended to add some oriental tobacco to the "Sybilla" variety thus improving the taste of the cigarettes containing but a small amount of nicotine.

Foreign tobacco producers are highly interested in the "Sybilla" variety.

## Polish eels

The State-owned Fish Estates subordinated to the Agriculture Ministry are increasing the deliveries of especially demanded fish assortments. In the recent year, above 570 tons of eel were caught, i.e. by 110 tone more than in 1969. It should be especially emphasized that 75 p. cent there-in belonged to the export grade.

This success resulted first of all from a regular breeding and frying activities. The above Estates let into the lakes every year about 30 million pieces of eel fry, imported from France and England, and recently also from the German Federal Republic. In the current year there were let into the lakes in May and June above 25 million pieces of the eel-fry.

At the 5-year plan end the eel production will increase to about 750 tons yearly.

The eels do not deposit the spawn in our waters, but are travelling for this purpose through the Baltic Sea and Atlantic Ocean to the Mexican Gulf, wherefrom the young fishes return to Europe, to Poland there-in. Thus for increasing the natural production the trials are carried on of the so called artificial eel breeding in small stews with heated water. This work will be carried out in the Frying Centre of Warm-Water Fish at Toslawice near Kutno, where the water drained from nearby electrical power-plants is profited of.

The readers will be interested in the information that a considerable part of eel catches is designed for export.



# When and how to transplant the plants

One of the important activities at cultivation of decorative pot plants is their transplantation. Generally it is accepted that the transplantation should be performed every or every other year, however it is inadvisable to observe this term too strictly; it is better to check whether the plant requires transplantation. For this purpose we draw it off the pot together with the whole earth block (similarly as while transplanting).

In the case when the block is grown with small white rottlets, then this means that the plant requires a greater pot and fresh earth. Otherwise no transplantation is required.

The plant age also should be taken into consideration. The young quickly growing plants should be transplanted more often than the old ones. Large plants such as palms, philodendron, cultivated rubber plant growing in spacious pots containing much of earth may be transplanted only every 4—5 years (preferably in spring time).

For a better resisting of the transplantation, the following indications should be observed:

- do not water plant one — two days before transplantation;
- take always a fresh earth being suitable for the plant kind;
- the new pot should not exceed too much in its size the previous one;
- cover the aperture on the pot bottom with a shell and pour on the bottom a little sand;
- after having taken the plant off the old pot, remove partly the old earth: do this very carefully so as not to damage the roots;
- place the plant not too deeply in the earth so that the root neck is positioned on the earth level;
- after having poured the earth this last should be carefully pressed in order to fill up the possible empty spots;
- a distance of about 1 cm. should be left between the pot edge and earth level; pouring the earth up to the pot edge level would hamper the watering
- after transplantation the plant should be watered but not too amply; within the following several days only the overground part should be moistened;
- the freshly transplanted plants should be protected against direct sun action, as well as violent temperature changes.

## Jubilee of a sweets factory — E. WEDEL

Chocolate bonbons, hard chocolate bars and filled ones, small chocolate cakes, milk fondants, Halva, Sesame snaps, these are the delicacies of the oldest sweets-meats factory in Poland — E. Wedel. (After World War II renamed July 22 Works). These dainties delight the palates of not only Polish consumers. Also abroad

sweets with the E. Wedel label are renowned for their excellent high quality. Thirty countries are the consignees of these dainties among which are the German Federal Republic, the United States, Canada, Great Britain, Austria and some Arab countries. The factory's annual production amounts to about 45,000 tons of sweets of which 10 per cent is earmarked for export, but by 1975 this amount will considerably increase.

In September 1971 the E. Wedel Factory celebrated its jubilee — the 120 years of its existence. This jubilee was signalized by a beautiful concert in which participated outstanding actors and pop singers. The concert was televised by Polish TV.

In 1972 the E. Wedel Factory will be further expanded and thoroughly modernized. This will contribute to an enlargement of the assortment of confectionary products. Among other things new kinds of chocolate are foreseen as well as English type pastry — crackers, etc.

At present a modernization of the machine park and technological lines is being carried out and purchases of new equipment are being made.

## It began from the love flower

From the eve of his existence the man was subject to diseases, and fought these at first almost exclusively with the aid of medicines of vegetable origin. The people were cured with herbs and their preserves. The oldest information of medicines are obtainable from the literature monuments of countries being the cradle of the world culture and civilization, i.e. India, China and Egypt, these monuments being 4000—5000 years old. So for example the informations concerning the healing vegetable raw materials may be found in the Chinese herbarium "Pen-King" written in about 2700 B.C. The Hindu scriptures "Vedas" mention about herb-cultivation in India. The old papiiri and especially the famous papirus of H.M. Ebers mention about using the herbs as medicine by Egyptian priests 1600 years B.C.

From the Eastern countries the herb-cultivation penetrated to Europe having found at first in Greece and next in Rome numerous adherents. A number of Greek scientists (Hippocrates, Dioscorides and others) had issued the papers about healing plants and action exerted by them. A Roman physician Galen well-known in ancient times, a Greek by origin, creator of a new healing method, contributed to the herb cultivation development in Rome. It is up to the present day that the galen medicines used in pharmacy are called by his name. It is certain that aside physicians and healers of a wide practical experience also many various charlatans operated, taking advantage of human credulity, belief in demons and supernatural powers. A special fame of possessing the magic power was enjoyed by the mandragora root. Being black, a little reminding by its shape the human body, it tempted for superstitious practices almost all human generations. The mandragora root was also known as a reliable anaesthetic remedy. Acc. to notes of old Roman authors, the juice from mandragora root was, aside the juice from tree hippomane mancinella, one of the main components of the love potions. On the contrary, for a quick getting a feritage

respectively for removal of a happy rival, the mixtures of poisonous herbs were used, being known under the name of "halicacabum".

Thus widened the number of love sorceresses in Athens, Sparta, Corinth.

Also the Slavic tradition is familiar with not less original rites.

The motherwort had to favourize the getting married those maids who girded with it.

A similar role was played by the rue. It was sufficient for a maid to plait a wreath from this plant that the fellows would court her.

It is up to the present that an old maid in the country is spoken of as "sawing the rue", this meaning that she still hopes to get married. Even to-day many people, before performing a new step on the life path or in the case of a disease take an advice from a quack or various old women. Surely, the herbs should be widely used in medicine, but by physicians thoroughly familiar with their application.

## Cures animals and helps people

Tadeusz Podbielski, a veterinarian, settled on the Międzyrzecze land at the beginning of July, 1945. He was the only representative of the veterinary health service here for almost 6 years. He reached every farm on foot, on a bicycle or by a country cart.

He was not a passive executor of official instructions, certain phenomena therefore made him uneasy. Cattle in a whole district, especially in the Wysoka Brzoza and Ransko villages, lost their appetite. Numerous cases of anaemia were noted. In spite of the abundance of fodder, the cattle was dying of starvation. Calves were born that were small and underdeveloped. They died after 3—7 days. T. Podbielski scrupulously noted his observations in a diary. He drew up statistical tables from his comparison.

## On the trail

Professional intuition put an idea into his mind; perhaps there occurs in the soil and in water, and consequently in the plants and in milk a shortage of certain microelements that are indispensable for a normal development of the organism. T. Podbielski sent out for a normal development of the to the laboratories of scientific-research posts of Poznan and Pulawy. The results confirm his hypothesis: there occurs an almost complete absence or a deficit of cobalt, copper, manganese. He therefore prepares a concoction containing salts of microelements, which nature had grudged this region. He ties it out on himself and his wife. The result? Their frame of mind becomes better, appetite increases, red blood corpuscles increase in the organism. The concoction causes no side effects, harmful to the organism.

He sets out into the region with the TP-1 and TP-2 mixtures. It took him a long time to convince the farmers, to have them give the cattle and pigs a solution of the concoction in their drinking

water. After a time he succeeded to break down their resistance. The results obtained were the best arguments, however. The disaster was averted.

While visiting the farms, Tadeusz Podbielski noticed at the same time that the children are also rachitic, and are sick with diarrhoea. Adults complain of headaches and other ailments. Medicine cannot discover the reason for these ailments. That the causes are analogous is not to be excluded. He recommends that people should also drink the concoction.

In this way, the battle was won on two fronts. The ailments harrying the people stopped. The cattle returned to standard rapidly, the death rate of the animal "youth" violently diminished, milking yields of cows improved, there were fewer diseases of the alimentary tract, skin diseases, anaemia and many others. Thousands of cases confirmed the rule.

An inhabitant of Międzyrzecze came to T. Podbielski in September with a hunting dog, requesting that the sick dog should be anaesthetized. Examining the dog, the doctor found a neoplasm the size of an egg on his nipple, with a metastasis on the neighboring nipple. He induced the dog's owner to entrust the animal to his care. He gave the concoction regularly to swallow and in the form of injections around the neoplasms. The dog became well after the lapse of some time, the largest neoplasm diminished to the size of a walnut, the remaining ones also became smaller. The experiment lasted 3 months. Unfortunately the dog was run down by a motorcar. The next "guinea pigs" were mice. The results were the same — positive.

## What next?

No one, not even the producer of the medicine, has had the courage to say so far that TP-1 and TP-2 is a miraculous medicine. Perhaps Dr. Tadeusz Podbielski is on the right trail? He has collected scores of examples in the country and abroad showing that this concoction has brought relief to the ailing.

It is perhaps worthwhile to scrupulously investigate the therapeutic properties of the TP-1 and TP-2 concoction and their effect on the human organism and ailments. Part of the world of medicine treats Dr. T. Podbielski's experiment with great scepticism and reserve. True, he cooperates with scientific institutes, higher schools of learning, clinics, etc. but these are all works carried out at hazard, and are not carried out to their end.

No one has as yet said "yes", but neither has the word been "no". Without regard to the final effect, the matter concerning Dr. T. Podbielski requires a greater interest than heretofore.

Worth reminding that physicians have charged Dr. T. Podbielski four times with quackery. All the cases were concluded with acquittals. No features of crime were found in the activities of Dr. T. Podbielski, no harmful effects of his concoction on the human organism, the disinterestedness of his motives having been emphasized.

## Rape cutlet

In their search for means which might be able to substitute the scarce protein, scientists turned

their attention to oil plants. Hitherto protein of these plants has not yet found wide practical application — its introduction to the market requires the elaboration of products which will be attractive in form and be of biological value.

In food production flour from soya beans, which contains 52 per cent of protein, is the most widely applied. It is used for protein enrichment of corn flour. In their research work Polish and Canadian scientists have proved that the biological value of rape protein is still higher than that of soya beans. Thus the conception was born of the elaboration of a technology for the production of concentrates from deoiled (by the so-called fluidal classification) rape seed. The products thus obtained were used for the enrichment of corn flour, for the production of sausages, etc.

The application of rape protein in mass feeding will be possible after the creation of economic condition which will justify the undertaking of the production of protein isolations on an industrial scale.

## Standardization as a factor of high quality of Polish pasteurized fruit and fruit in syrup

Polish fruit in syrup and pasteurized fruit belong to these fruit and vegetable products exported which enjoy a good reputation with foreign customers. Pasteurized fruit and fruit in syrup rank among products the nutritive properties of which but slightly change in comparison to the initial raw material. A small sugar addition rectifies only the taste virtues of the fruit contained in the finished product.

The high quality of products is ensured by standardized requirements to which the products have to meet within the range of organoleptic, physicochemical, packing and markings parameters. Since the quality of the finished products depends mainly on the quality of the raw material used, the processing plants contract with cultivators such fruit which ensure the supply of raw materials suitable for the products. The specialization of individual farms in cultivation for the industry creates propitious conditions for the obtaining of appropriate varieties of raw material, and the proper state of ripeness of the handsomely coloured, fresh and wholesome fruit.

In order to retain the most beneficial taste and nutritive virtues, the fruit and vegetables are passed immediately for processing into preserves. The modern technical equipment of the factories, ensuring a continuity of the production processes and meeting the sanitary and hygienic requirements, favour an effective realization of the production and the application of proper technological operations.

Fruit in syrup are fruit in a sugar solution (18—28 per cent), preserved by pasteurization, in air-tight packings (jars and tin cans). The following products are fruit in syrup which stand out for their excellent taste and flavour:



**Strawberries in syrup** are produced from varieties fully, intensively coloured, of a compact consistency and dense flesh. After the removal of the pedicels, the strawberries are thoroughly washed and rinsed. Selected according to size fruit are put into packings and preserved by means of pasteurization.

**Bilberries in syrup.** All impurities, like small leaves, dry and small berries are removed from the bilberries gathered in the forests. The fruit is then gently rinsed in clear water and submitted to farther operations. Bilberries earmarked for preserves in syrup must be fresh, dry, robust, wholesome, not crushed, without any signs of decomposition or injury whatever.

## Sour cherries and morello cherries in syrup

For the processing of these preserves only fruit of an even stage of ripeness, equal in size, shape, colouring and consistency are selected.

**Black currants in syrup** are a valuable, nutritive product because of the fruit's vitamin C content. After the removal of the stems the fruit are classified and sized in order that the final product may have an attractive appearance.

**Pears in syrup.** Handsome varieties of pears, without deformations, with a pleasant taste and flavour and nicely tinged flesh are carefully picked at the proper stage of ripeness for processing. The pears are peeled and, after the removal of the seed vessels, cut in equal parts and then immediately submitted to farther processing, thus obtaining a product of an attractive appearance and agreeable taste.

**Plums in syrup.** These are entire plums with stones (greengages and purple plums) and of plums cut in halves, without stones of the *Prunus domestica* varieties. Only handsome fruit, evenly ripened, without dots and injuries, nicely tinged and of a standard shape are used for processing into plums in syrup.

**Pasteurized fruit** are fruit deprived of inedible parts (stones, stems, seed vessels etc.), entire or cut, compactly placed into packings containing a small amount of juice, hermetically closed and preserved within the packing by the pasteurization process. Pasteurized fruit can be used for direct consumption or as a semi-product for making creams, jams, marmalades, puddings or other desserts and as filling of cakes. The extract of pasteurized fruit approximates the extract of fresh fruit.

Pasteurized fruit are made from black currants, bilberries, strawberries, pears, apples, cherries and plums.

Requirements for two quality classes have been stipulated within the quality standards in force. The standards ensure: uniform packing varieties, distinctive colour for the fruit used, consistency and appearance (fruit are patically kept entire); taste

and flavour — intensive, typical for the fruit.

Slight deviations from the standards set for the 1st class, having no essential effect on the quality of the product, are admitted for the 11nd class.

Moreover, the standards for pasteurized fruit and fruit in syrup set detailed requirements of the following features: the refractometrically marking of the extract, the net weight of the product in individual packings, the net weight of the fruit after draining off the liquid, the admitted quality allowances, the ways of marking of individual and transportation packings and finally the ways of collecting samples and carrying out of quality control.

## "Dańkowskie" rye breaks records

"Dańkowskie Gold" rye variety cultivated by Polish farmers broke in 1971 all hitherto existing crop records. An average of forty quintals of grain per hectare was obtained on 6th class soils. These are crops usually yielded by wheat growing on very good soils. Moreover these crops were not an exception.

## A new method of storing fish

Scientists and specialists in the line of processing of fish, employed by the Maritime Fishing Institute, are working at the technology of a new method of storing fish in the form of minced flesh of fish. This is a method that enables to utilize the raw material in the best possible manner. Being relatively simple, it requires much less machinery than is needed nowadays, at the method of filleting of fish applied at present. Minced fish occupy a smaller storing space than filets or carcasses. Besides it is easily divided into portions of various sizes. When prepared according to the new method, the meat of fish, containing large amounts of proteins, is much better utilized than previously. Furthermore, minced fish is perfectly fit for the preparation of not complicated meals of semi-delicatessen type, jellies and preserves.

## The appetite for frozen products is steadily growing

Frozen products are the most popular type of food products of our times. This especially concerns fruit and vegetables. They have won the appreciation of all the world housewives, both owing to the fact that they are

easy to buy (cleaned selected and most frequently already packed in portions in attractive packages), and also because they are easy and quick to prepare. Moreover — and this is probably the most important — frozen products are available throughout the year and in every country where they are produced, or imported, supplementing or diversifying the assortment of fruit and vegetables — the most important source of vitamins, and thereby of health. For, frozen products retain their full nutritive and savoury values and do not lose any of the mineral components and vitamins they contain, and especially vitamin C, so important for the organism.

The production of frozen products in Poland has become three times higher during the last five years and will be doubled during the next five years. More than half is exported.

Polish housewives have displayed excellent knowledge by accepting this novelty almost immediately whereas others introduced on the market take long years after being introduced. Experts have acknowledged that this manner of conserving food is the most suitable and at present is one of the world principal lines in the food industry.

Freezing of food, known for several tens of years has made a great career just recently in the last several-odd years. In the first place, as far as vegetables and fruit are concerned, it has become independent of the seasons which is of great importance, in the second place, one is not dependent on local markets, because frozen products can be transported everywhere and at any time convenient, and thirdly — and this is the most important for the consignees — a product is received that does not give way to the fresh one.

The refrigerating industry in Poland is faced with rapid development. Up to 1975 there will be built 7 large refrigerating storerooms in Poland and the eighth one to be built in Opole will be considerably advanced and finished by 1976. Seven new buildings are being erected in Koszalin, Rzeszów, Tarnów, Toruń, Kielce, Lublin, Katowice which will give a total 40% increased surface refrigerating area and will wholly ensure rational management of easily perishable products such as meat, poultry, fish, eggs, butter, and will enable to store these products for seasons during which purchase, slaughter and fishing are lower than the demand on the market.

Irrespective of meeting prior needs, the increased refrigerating area will enable to considerably raise the production of articles in demand: 90% more of culinary products, over 60% of frozen vegetable and fruit products, and ice creams — 6 times more.

One of the largest plants in Poland producing, among other things, fruit-vegetable frozen products is the "HORTEX" Fruit-Vegetable Industrial Plant in Góra Kalwaria, which is systematically enlarging its production of frozen products and concentrates, today widely known also abroad.

The total production of the Plant attained 5481 tons in 1967, whereas the production was already doubled in 1970. Export was also doubled during this period, reaching the value of 312 thousand dollars in 1970. Products from Góra Kalwaria have a good name, especially on the Western country markets.

Frozen fruit and vegetable products are exported by "HORTEX", Foreign Trade Enterprise, Warecka 11a, Warsaw, Poland.

## Edible Boletus — the most valuable mushroom

Edible boletus (*Boletus edulis* Bull EX Fr.), commonly known as cepe, can be found in coniferous, leafy and mixed forests alike, from May till October. The colour of its cap varies, depending on the environment, from dark brown to grey and white.

Remarkable for its extraordinary culinary qualities (surpassing those of champignon), edible boletus is widely used and greatly sought after as one of the most valuable mushrooms. Boletus is featured by an extremely strong and pleasant mushroom aroma which — unlike with other mushrooms — becomes even more intensive after drying. The latter characteristic substantially adds to the commercial value of the mushroom.

It is equally important that after picking edible boletus retains its snow-white colour and while other mushrooms, even those related to boletus, grow dark or black soon after harvesting, edible boletus remains white in its part between cap and stipe.

Edible boletus is processed in a variety of ways, and it is also perfectly suitable for drying — accounting for 75 per cent of the total quantity of dried mushrooms produced. Mushrooms of other kinds are usually preserved in a different manner.

We can easily see the superiority of edible boletus when comparing well-dried mushrooms of this kind with other varieties. And thus dried edible boletus does not lose its light colour, and is actually snow-white on the bottom side of the cap (in the case of young specimens). Edible boletus is greatly appreciated by tradesmen and consumers also when offered in other forms; cut mushrooms, mushroom concentrates and pickled.

The nutritive and culinary value of edible boletus is determined by its chemical composition presented in Table 1.

Table 1

### The content of nitrogen substances

general nitrogen	6,4%
non-albuminous nitrogen of water-soluble compounds	1,33%
chitinous nitrogen (chitin = 8,73%)	0,55%
albuminous nitrogen	4,52%
protein (albuminous nitrogen × 6,25)	28,25%
fats	3,78%

### The content of mineral substances

full ash	8,45%
ash insoluble in 10% hydrochloric acid	0,97%
calcium	20,92 mg%
phosphorus	656,0 mg%
iron	30,93 mg%

### The content of A-group vitamins

thiamine	1,25 mg%
riboflavine	9,36 mg%
niacynenn	69,5 mg%

\* Data given in the table show the content of particular ingredients as found in 100 g of dry substance.

Edible boletus is noteworthy also on account of the high biological value of its protein. The evaluation of the maximum biological quality of this protein (performed by the Institute of Foodstuffs Science in cooperation with the Institute of General and Social Hygiene of the Medical Academy of Łódź) has revealed that it reaches 66,15%, while the biological quality of protein present in bisporic champignons (*Agaricus bisporus*) is estimated at only 30,3%. The analysis of a mixed diet: edible boletus and gluten (plant protein) and then of gluten alone, has proved that the protein of edible boletus improves the biological quality of gluten. The results obtained were 45,69% for the latter and 54,96% for the former, respectively.

The protein of edible boletus can be supplemented with gluten in serving such dishes as edible boletus with noodles or cereals, mushroom pies, etc.

The biological value of edible boletus protein will be more fully illustrated by Table 2, which carries the value for other protein products, such as egg powder and albumen.

The essential and decisive factor for the nutritive value of protein is the presence of necessary amino acids, i.e. such amino acids which must be supplied to organism in food. Their absence or low content reduces the biological value of the given food article.

Table 2

### Maximum biological value of edible boletus protein as compared with that of other food products protein

edible boletus	66,15%
champignon	30,3%
yeast	28,0%
edible boletus with gluten added	54,96%
albumen with gluten added	61,47%
egg powder	73,23%
albumen	74,69%
casein	64,44%
beef (market meat)	51,35%
gluten	45,69%

In edible boletus all the indispensable amino acids appear and it contains considerable amounts of histidine and arginine. The content of histidine in edible boletus is by 97 per cent higher than in the egg protein which is characterized by the optimum level of amino acids.

Apart from that, edible boletus contains a fairly large amount of mineral substances: calcium, phosphorus, iron, which raise the nutritive value of the mushroom. Nor should we overlook the pretty rich content of B-group vitamins, especially riboflavine, niacine and thiamine.

Suming up, we can say with full conviction that edible boletus is the most valuable among edible mushrooms. Its biological value equals that of beef, and its protein combined with e.g. gluten, raises the latter's biological value. Thus, edible boletus is a source of biologically valuable protein which can be successfully used to supplement other plants protein.



**T**he mackerel — *Scomber scombrus* — is one of the most important and valuable of the industrial fish. This fish is of great economic significance and its nutritive value is the decisive factor in its being acknowledged as a very valuable item for consumption.

The relatively high fat content and savoury values have contributed to the universal consumption of this species of fish. Owing to these attributes, the mackerel is as a whole much in demand and does not fall short of the demand for herring. It is, therefore, no wonder that the catches of this species of fish become greater every year. The geographical reach of mackerel fish is very extensive and includes water areas from Europe, through the Americas and Africa to Japan. There are several varieties in these areas differing in their anatomic and morphological structure, but owing to the commercial nature of the information we shall not write about these matters.

Hence, the subject of marketing are mackerels from — deep seas — the Baltic Sea — deep waters — cold waters.

The mackerel, as a species that has delicate meat and a high content of enzymes in its alimentary tract requires a rapid preliminary dressing on the boat, that is gutting, removal of heads and filleting. The high content of easily oxidizing fat requires that the protective process (freezing) should be carried out with greater carefulness. Polish fishermen who have mastered this technology very well, are well aware of this. But not only the technology of dressing and freezing is taken into account here. The most advantageous fishing periods must also be known. Hence the most valuable fishing catches as regards the most advantageous chemical composition (a high fat content) and musculature of the fish falls in the autumn-winter period. We are presenting the content of some components characterizing the Spring and Winter mackerel as evidence of the nutritive value of the mackerel. Thus the Spring mackerel contains 5.4% fat besides protein and water, its caloricity amounts to 125.0 kcal, whereas the mackerel from winter catches has 20.2% fat, and its caloricity amounts to 255 kcal (caloricity index per 100 grams meat).

Mineral substance in mg/100 grams of meat in the spring mackerel is as follows:

Ca 20.0, P 250, Fe 1.4, I 0.05:

and in winter mackerel:

Ca 20.0, P 240, Fe 2.4, I 0.05.



## *Mackerel and its economic importance*

Tadeusz Sznabel



And now let us compare the vitamin content in the meat of mackerel and herring:

Vitamins	Fish species	
	Mackerel	Deep water herring
A j.m/100 g	150	20—400
B <sub>1</sub> mg/100 g	90—200	25—60
B <sub>2</sub> mg/100 g	250—650	100—330
B <sub>12</sub> mg/100 g	12	12
PP mg/100 g	750—1070	205—400
C mg/100 g	14,5	7,1
D mg/100 g	27,5	30,0
Pantothenic acid mg/100 g	1030	950

The aminoacid content of the muscle proteins, the species of the mackerel (*Scomber scombrus*) is similar to that of the herring (*Clupea harengus*) with an upward trend in the mackerel.nn

Analysing the content of chemical components in the meat of mackerel, it is found that it does not deviate much from that of the herring and even indicates a higher value in the composition of vitamins and aminoacids. The mackerel as a species is counted among the fat fish, of a high nutritive value, which in conversion to caloricity counted in 100 grams meat is, as already given, from 125.0 kcal (Spring mackerel) to 255.0 kcal (Winter mackerel). The high caloricity, the high coefficient of assimilation of fish protein by the human organism — an average of 96%, the presence of the basic vitamins and the content of the valuable aminoacids such as tyrosine, arginine, histidine and lysine decide on the high value of consumption of this fish species and therefore this fish enjoys a great demand among consumers.

Worth adding that with the consumption of a daily portion of mackerel, the human organism receives 1/10 of the daily need for vitamin A, the full demand for vitamin of group B and a number of other vitamins. The mackerel is sold in increasing quantities each year. Foreign merchants buy this fish as a raw material for further processing or in an already processed state. The exporter of this valuable fish is "RYBEX", Foreign Trade Enterprise, Odrowąża Street 1, Szczecin.

Kindly forward inquiries to the above address. You will not wait long for an answer.

This fish is deep frozen in blocks weighing about 10 kg and is packed in cartons containing three blocks; or is deep frozen into 15—16 kg blocks and is packed in cartons containing two blocks. Mackerels are also prepared in the salted form in barrels containing 10 kg net.

# *rybex*





## His Life's Passion—Vegetable Cultivation

The name of Professor Dr. Emil Chroboczek is already 40 years linked with scientific bases of the development in Poland of vegetable cultivation. A scientific centre engaged in vegetable cultivation should — in Professor Chroboczek's opinion — solve by means of research work the problems set by vegetable production. Throughout his entire life the Professor consequently strived to put to practice this principle, both as Head of a Chair of the Main School of Farming and as director of the Institute of Horticulture at Skierniewice. That is why the results of his research work won themselves the highest appreciation both among scientists and among vegetable raisers and brought to Poland's national economy tremendous advantages.

Already during his studies at the Faculty of Agriculture and Forestry of the University of Poznań, Emil Chroboczek proved his outstanding ability and unusual passion for research. When in 1929 Chroboczek graduated as an engineer in agriculture, he did not realize that his scientific career will be in another direction. At that time the Main School of Farming was organizing the first in Poland, conceived on a wide scale, research and didactic centre in the line of horticulture. The young engineer was offered at this new establishment the management of research work in the line of vegetable plants and at the same time he was granted a scholarship at one of the best horticultural academies — at the Cornell University in the United States. There, under the tutorship of Professor Dr. H.C. Thompson, engineer Chroboczek started to study the biology of sugar beet. Until that time market gardeners had much trouble with the young sugar beet, which in the spring gives off seed shoots, thus causing big technical difficulties in its processing into sugar. In his toilsome, lasting more than three years work, Mr. Chroboczek not only got to know but also solved the problem of the premature blooming of the beetroot, as a result of this it became possible to control the development of the beetroot, — to speed up or retard, or even completely stop its florescence. The material collected served Chroboczek in his work on his doctor's thesis, which was assessed by scientists as brilliant. Towards the end of 1932 Chroboczek with his doctor's degree returned to Poland and took over at the Main School of Farming the Chair of Vegetable Plant Cultivation. At the same time at this academy he lectured on horticulture. In 1937 he was appointed associate professor and in 1946

full professor of vegetable cultivation at the Main School of Farming. In his work on other vegetable plants, Professor Chroboczek applied the chosen in the United States method of research into the biology of the beetroot to other vegetable plants and widened the scope of their examination by climatic conditions. In his research into climatic conditions of various regions of Poland, Professor Chroboczek found in 1946 that on the Island of Wolin, and even on the entire coast, that in winter prevails a temperature permitting the storage of young cabbage directly in the soil. Thus stored cabbage blooms in the spring and yields the required seeds. Research proved that on the coast also other vegetables can be wintered in the same way. Professor Chroboczek's research work brought especially big advantages in the line of onions. He examined many varieties of onions cultivated in Poland and selected the Wolska variety as the best in our climatic conditions. This is a high class onion with a mild taste it is white, spherical and stores well during the winter. Today every onion cultivator receives this very variety of selected seeds. Within a short time Poland changed from an importer into an exporter of onions, which are considered the best in the world. The study of onions took the Professor 25 years. Into the problems which he was working on, Professor Chroboczek drew in young scientific workers. Thus during the 40 years of his didactic activities he educated in the line of horticulture 80 M.As, 25 doctors and 5 assistant professors. With so numerous a cadre of expert horticulturists Professor Chroboczek was happy to accept in 1969 the offer of the Ministry of Agriculture to organize at Skierniewice the Institute of Horticulture.

The Professor even resigned as head of Faculty at the Main School of Farming, as only under the work conditions at the Institute he was able to fully carry out the principle voiced by him that progress in research work in horticulture calls for specialization at a simultaneous cooperation between research workers. Today the Institute embraces 10 scientific establishments fitted out with appropriate laboratories, glass-houses, cold storage plants, stores, experimental microplots etc. Here, every year, 30 to 40 papers on the work carried out at the Institute are published. The Horticultural Experimental Establishments set up at Skierniewice, at Regulki (district of Pruszków), and at Rakowo (district of Puck) popularize the results of the research at the Institute and put them to practice in production.

The activities of the Institute of Horticulture have won high recognition both in Poland and abroad. A proof of this are the numerous contacts which the Institute has with similar establishments and faculties of horticulture abroad. The Professor has many personal friends in the Department of Horticulture at the Cornell University in the United States.

For his activities, embracing 130 scientific papers and technical dissertations, 12 textbooks and 98 popularizing publications, Professor Dr. Emil Chroboczek was awarded high decorations. On the other hand, scientists, in recognition of his services and merits, elected him a full member of the Polish Academy of Sciences. Professor Chroboczek is also correspondent member of the German Academy of Agricultural Sciences and has been honoured by the title of Doctor Honoris Causa of the Humboldt University in Berlin.

Witold Lemieszewski

# Polish scientists



## In the Sphere of Potatoes

Associate Professor Dr. Kazimierz Berliński is one of those people whose life moves in the sphere of potatoes. This scientist, a worker of the Institute of the Potato at Bonin, near Koszalin, dedicated his whole life to this plant. It is to him that we owe, among other things, that the potatoes cultivated in Poland are good, fertile and, above all, healthy. As a result Polish potatoes, are in great demand both at home and abroad. The potato, same as a number of other vegetables, has many enemies. These are, primarily, diseases and pests which attack it not only during the time of growth but also when in storage. Almost all the hours of his work at the Institute Associate Professor Berliński dedicates to the fight against the enemies of the potato. It is worth noting that he is working with the greatest interest on the agrotechnical and physical methods of fighting against pests, diseases and weeds. Thanks to these methods the fight against potato pests is carried on without the introduction into the soil of chemical agents. Thus with their application there are no side effects. The kind of work carried on at the Zakład Chorób i Szkodników Ziemniaków (Potato Diseases and Pests Institution) directed by Associate Professor Berliński is very varied. In

principle the task of the Institution is to lay out organize and carry on research in the line of diagnosis of potato diseases and recognition of pests, as well as the elaboration of the most effective methods of fighting them. The results of the work done have been reported by this scientist in many of his publications. During the past few years a total of 17 works by Associate Professor Berliński have appeared.

The Institution headed by our scientist has close and lively links with institutes abroad including, among others, the institutes at Wageningen (the Netherlands), Aschlesleben (the German Democratic Republic) and the Institute of Plant Cultivation at Gröblevitz. Associate Professor Berliński has many personal contacts with scientific centres in the German Federal Republic, Great Britain, Austria, Denmark and in other countries.

The main problem for us is — Associate Professor Berliński said — for potatoes throughout Poland, both those cultivated for home consumption and those which we ship abroad, to be healthy, fertile, easy to cultivate and to store."

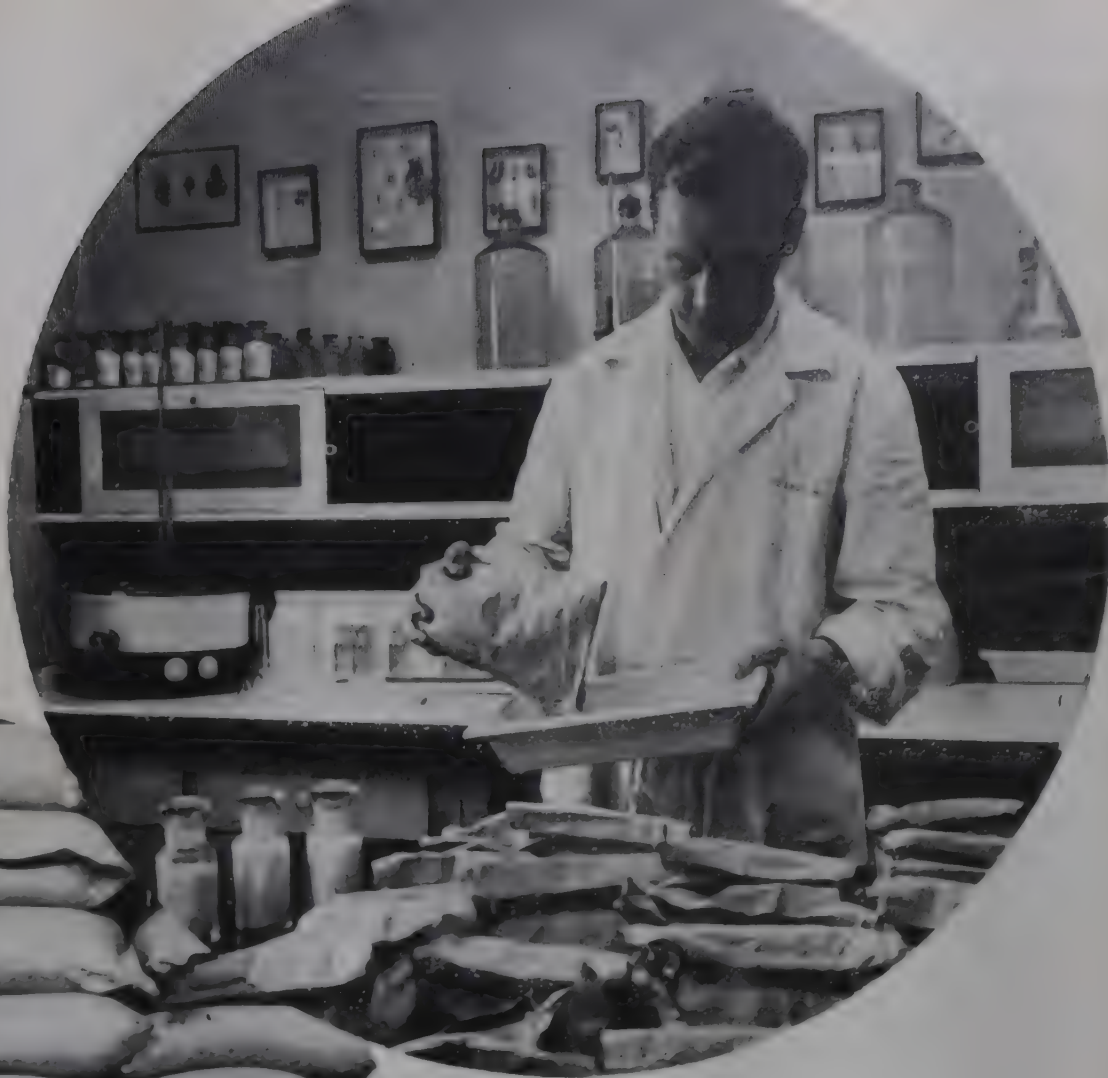
• Interview by:  
F.KOTOWICZ



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**Foreign Trade Enterprise AGROS  
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**In the Sphere of Potatoes  
HIS LIFE'S PASSION —  
VEGETABLE  
CULTIVATION**

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# FOOD

*from Poland*

Review of Exports of Agricultural Products and Foodstuffs

No 3(47)





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## Our Cover Page

"Roe Deer Hunt" — an Arras tapestry of the National Art Collection in Wawel Castle in Krakow.

Made in Flanders (Bruges) around the year 1660.

Measurements: height — 329 cm, breadth — 538 cm.

This Gobelin represents a court hunting scene in a hilly country with clusts of trees and thickets. The hunters are encircling a small pond in which the hounds have already pounced upon the roe deer.

The bordure of flowers and fruits has in the top corners peacock and in the bottom ones hares. Rusty-brown and green and ochre and warm-red are the dominant colours.

This Arras was donated to the collection in 1946

Photo of the original by Gustaw Russ





The VI Congress of the Polish United Workers' Party, which took place in December, 1971, focused undoubtedly the attention of political observers from all over the world. This should be quite understandable. The Polish United Workers' Party is the leading and directing force of the Polish nation. Its resolutions have decisive influence and importance for the social and economic development for over 32 million Polish population. The Congress raised also considerable interest in the economic circles of the whole world, primarily among our customers and buyers whose business interests are connected with Polish foreign trade. We are thinking here both of import of goods from Poland and of export of their products to Poland. We consider it justified, therefore, to present in the periodical "Food from Poland" our comments on statements made at the VI Congress of PZPR concerning our trade relations and economic cooperation with foreign countries.

In the first place we should emphasize the attitude towards the role played by foreign trade in Poland's economy. Imparting to foreign trade the exclusive role of a factor balancing the shortage and surplus of goods has been recognized as incorrect attitude. Quite to the contrary — a thesis has been declared that the development of international trade turnover and of cooperation with foreign countries should be considered an activity imparting dynamism energy to the entire economy. This thesis has been accepted as just and pertinent at the present stage of development, dictating further, logical undertakings of Polish foreign trade. The primary task is the problem of influence of foreign trade on further development of our national economy, and bettering of the living standard of our

population. The Polish foreign trade can implement this task, basing its activity on long-term trade agreements and on the optimum programme of development based on economic, technical and marketing prognoses. Attention should be brought here to the fact that during the years 1966—1970 Polish export has increased by 59% and import by 54%. This means that Poland can note considerable achievements in her past development of trade turnover with foreign countries. New goods and commodities, never before sold abroad, have appeared on our export list.

Polish export gained new markets, the share of machines and equipment and of industrial consumer goods has considerably increased in total Polish exports. Nevertheless, the ties between Polish and world economy, i.e. our share in the international division of work, does not correspond — in spite of the undoubted progress — does not correspond with our possibilities, our needs, nor with our economic position in the world. Considerable attention is paid to such problems as the need to streamline and improve the organization of cooperation of our foreign trade with industrial enterprises, to improve the system of financial accounting and, among other, to make more flexible the principles of centralized control of development of our foreign trade relations.

This will give a greater independence to foreign trade enterprises in decision-making and will increase their initiative and efficiency.

It can be expected that the task of increasing the trade turnover and cooperation with foreign countries in the years 1971—1975 will be realized, in accordance with the expectations of our foreign customers.

*Mieczysław Samojluk*



# Refrigeration — a part of the food market

When speaking of refrigeration everybody thinks mainly of food refrigeration. This, however, is not the only domain in which refrigeration plays an important part. Refrigeration means also cryogenics and cryobiology.

With refrigeration the problems of air conditioning as well as the specialized sea and land transport of perishable goods are connected. In the chemical industry refrigeration covers, among other things the problems of insulating materials and cooling media (freon, liquid nitrogen). All this favours and conditions the proper development and modernization of the food refrigeration branch. In the years 1960—1970 the refrigerating capacity in Poland more than doubled. A comparatively high — on a world scale — refrigerating capacity has thereby been attained in 1970 per 1000 inhabitants i.e. 30.4 cu.m (in 1967 this index amounted in Great Britain to 37.8 cu.m in Holland to 35.7 cu.m and in France to 32.2 cu.m).

In the cold stores the production of frozen products from fruit and vegetables was developed (about 44,000 tons in 1970 against 15,000 tons in 1965). Simultaneously the production of frozen ready-to-serve dishes is being developed.

The construction of ground floor cold stores from prefabricated elements with rooms of large capacity is being realized, with the possibility of attainment much lower tem-

peratures than hitherto (down to  $-27^{\circ}\text{C}$  and more), equipped with mechanized transport arrangements of high reloading capacity.

At the same time the single-branch refrigeration is being developed. The amount of land transport means has many times increased during the past decade and so has the number of trawlers — floating freezers and fish processing factories. The problems of the refrigeration hinterland for fish turnovers in medium and small consumer centres have, however, not been solved.

During the period 1971—1975 the commissioning of 11 new multi-branch cold stores and more than 20 smaller plants for freezing fruit and vegetables is foreseen. It is anticipated that the production of frozen fruit and vegetables will grow in 1975 to 105,000 tons in 1980 to 125,500 tons and in 1985 to 140,000 tons. The programme of cold store development until 1985 includes ground-floor plants of 2 to 3 storing chambers holding 5,000 to 8,000 tons each. On account of lower unit construction and operation costs the building of large ground floor multi-branch cold stores is preferred.

The Silesian industrial, coal and steel-and-iron basin, the Warsaw building industry and scientific "basin", the Opole Poznań and Bydgoszcz agricultural production centres are generally renowned and spoken of with pride in Poland.

One also ought to mention here the Kraków-Rzeszów re-

frigeration "basin". In this region have, namely, concentrated both the scientific-research and engineering thought represented by a group of experienced refrigeration specialists of the "COCH" (Main Refrigeration Centre) in Kraków as well as an overwhelming part of production works turning out from small highly efficient refrigerating sets up to huge ship compressors and refrigerated trucks equipped with home made refrigerating plants. The milk cooling plants indispensable for our dairies are also made here.

All these attainments would, however be of not much use without the development of the last link of the refrigerating chain — the domestic refrigerators. The MOSTOSTAL in Wrocław is also cooperating with the refrigeration branch. It is the main contractor assembling multi- and single-branch cold stores and the maker of freezing tunnels and refrigeration fittings. A group of MOSTOSTAL's designers has only recently developed the construction of light panels for segment cold stores. They are based on our home raw materials. A similar role is to be played by prefabricated elements with insulation in the form of styropian and concrete panels developed by a team of COCH specialists in Kraków.

All this is an extremely important part of the food market, or in other words of matters connected with our daily bread and not only bread.





Forests provide for the economy timber, a richness of forest fruit and a variety of fauna. Moreover they bear an influence upon the formation of the climate and humidity. In the XX-th century, a century of universal chemization and mechanization, the protection of man's natural environment is the main task of humanity. That is the reason why our interest in matters concerning the forest has increased. With the aim of better acquainting Our Readers with some forestry problems, the editors of Food from Poland asked Mr. Jerzy Popko, the Minister of Forestry and Timber Industry to answer the following questions.

## BEAUTIFUL, VIRGIN AND RICH— POLISH FORESTS...

**1. Mr. Minister, I would like to ask you for some data concerning Polish forests, their area and afforestation.**

**Answer.** Polish forests cover 27 per cent of the entire area of our country. This amounts to about 8.5 million hectares. In the standing timber about 80 per cent are coniferous trees, which under our climatic and geographical conditions grow into rarely encountered in the world specimens both as regards height and girth and primarily the quality of the timber.

In Polish forests, pines, spruces and firs are most often encountered but we have also quite large areas of beech, larch and — the now rarely encountered in the world — stone pine forests. Also Polish oaks, hornbeams and many other trees are renowned.

As I already mentioned, we attach great importance to the weightiness of forests and thus during the past 20 years our forestry service afforested more than 1.5 million hectares of land. Apart from that under our expert direction social organizations and institutions, including school children have planted many millions of trees and shrubs in their own parks, along roads and on waste land. If this quantity were located in one area it would be — according to estimates of experts — a forest covering one million hectares. The seedlings of trees and shrubs were supplied free of charge by our forestry service.



**2. Mr. Minister, forest next to valuable timber has a richness of forest fruit and game, as well known after satisfying the needs of the home market they are exported in considerable quantities to many European and over seas countries.**

**Answer.** Due to a proper forestry management and the establishing of rational methods for the maximum utilization of the riches of forests, Polish forests have become an important world producer of forest fruit — mushrooms, and medicinal and industrial herbs. They abound also in various game. The Zjednoczenie Produkcji Leśnej "Las" (Las Union of Forestry Production) is engaged in the winning of these riches and their delivery to the home market and to countries abroad. This enterprise, with its subordinate units and collection centres, of which there are about 5,000, is engaged in the management of the forest fruit and their purchases.

The Las Union of Forestry Production has a number of up-to-date processing plants, cold storage plants and specialistic transport permitting the quick delivery to its clients of forest products in a proper condition. It delivers to home and foreign clients fresh and frozen forest fruits, in dried form, as compotes and juices. For example wild strawberries are mostly delivered frozen, cranberries (red berries) are shipped fresh and in the form of juices, blackberries — only frozen and in the form of compotes, juices and wine;





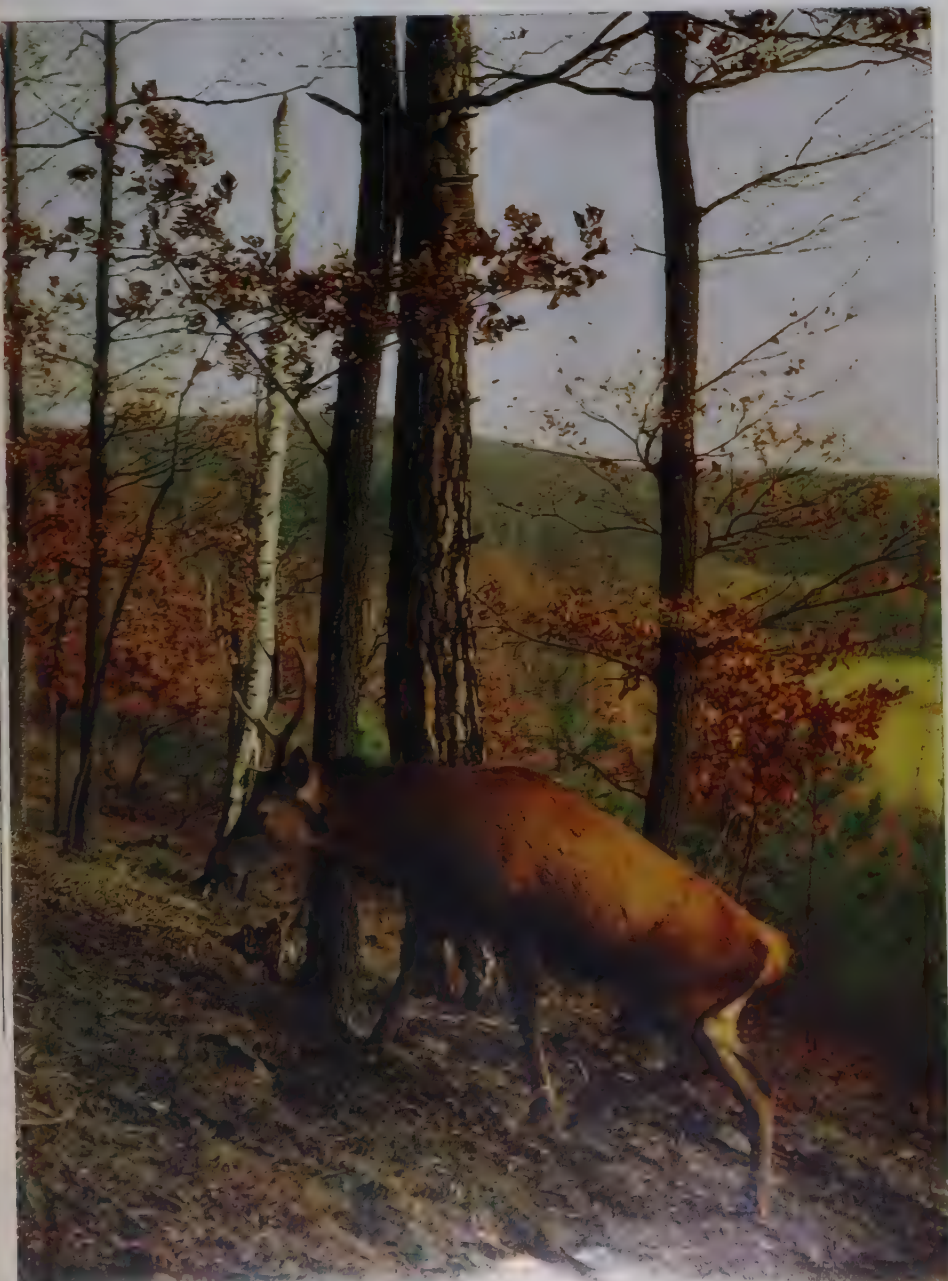
sloe plums — fresh, frozen and in the form of juices. We also deliver the fruits of the weld-rose, hawthorn, elder rowan and other fruits.

In the domain of forest fruits an important item are mushrooms, which are provided by Polish forests in large quantities. The most popular in Poland are boletuses, but our Western European customers prefer and value more the tasty chanterelles boletus luteus, agarics (*Tricholoma*), honey fungus (*Armillaria mellea*) boletus scabers and particularly *Gyromitra esculentos*. We deliver to our customers fresh, dried, marinated mushrooms and so-called salted semi-processed mushrooms and sterilized preserves. The mushrooms delivered in all forms are in high repute among buyers in many countries. These products are delivered to clients abroad through the intermediary of AGROS Foreign Trade Enterprise.

A separate department of the Las Enterprise is game. We divide it into big game and small game. To the first group we number: wild boars, stags, roedeer, fallow deers, elks and aurochs and to small game: hares, partridges, wild ducks, pheasants, quails and other game.

Some of these animals are delivered live — to enrich hunting-grounds. For example we export live hares, partridges and pheasants to France and Italy. To these two countries and to many others we deliver, through the intermediary of ANIMEX Foreign Trade Enterprise, frozen game — unskinned and with plumage or plucked and skinned, in elements or canned. For example among the many canned game the most renowned are: venison goulash and venison fillets, roast wild-boar and wild-boar fillets; stag venison fillets, goulash and shashlek; saddle of hare and hare haunches in sauce chasseur; partridges and quails in butter-sauce and many other dishes. Everybody knows that game is most tasty and — primarily — wholesome, therefore all delivered quantities find ready buyers.

**3. Of late the fight for the preservation of man's natural environment has become popular. In this respect what is being done in the Ministry of Forestry.**



**Answer.** This problem is regulated by the law on the preservation of forests which was passed by the Sejm in 1971. This law limits the localization of all industrial plants the fumes of which might poison or pollute the air and cause damage to standing timber, fauna and forest fruits.

Our ministry has taken up the fight for the preservation of man's environment already a long time ago. It is well known that around larger towns have been created forest complexes which serve the inhabitants of those cities as natural lungs for oxygenation and are a place of rest on holidays and after work. Thus near Warszawa has been set up a vast complex of forests covering an area of more than 200,000 hectares. Similar forest strips are being created around the towns of our coal basin — especially in Upper Silesia. Besides many complexes of forests in Poland have been turned into national parks and sanctuaries. Among the largest are: the ones at Białowieża, in the Tatra Mountains, at Ojców and in the Bieszczady Mountains.

Our forests, as I mentioned earlier are rich in game. We have, for example, more than 350 aurochs — this amounts to about one-third of the entire auroch population throughout the world. There are also elks, stags, roe-deers, fallow-deers, weld-boars and many, many other today rarely encountered animals.

We protect and preserve our forests so that future generations may enjoy their beauty and benefit from their values. We want, however, that all their values be known and that is why they are opened to home and foreign tourists — as man can only love that what he knows and appreciates.

We also make available for home and foreign hunters forests for hunting. These hunts and shooting parties are most attractive and provide many thrills and adventures. Obviously we shoot only such game which is found in sufficient numbers and in regions which the planned forestry economy considers as appropriate.

*Interview by  
Władysław Oryl*





Let's protect  
the environment  
of man. Let's take  
care of forests  
and cultivate  
their fauna  
and flora.

These are  
the main tasks  
of humanity in  
the second half  
of the 19th  
century



# Q&A

In December 1971 the Sejm of the Polish People's Republic passed the economic plan for the years 1971—1975. A particular role has been assigned within the frames of this plan to the Polish foreign trade. The editors of "Food from Poland" approached the Managing Director of the Foreign Trade Enterprise **AGROS**, Mr. Bolesław Goroński, asking him to answer two questions. — *How do you evaluate the tasks facing AGROS in the light of the new economic policy?*

I would like to start my answer to this question with a statement that at the present stage of the economic development and in accordance with the new policy we consider export and import as equally important elements. This means that we consider trade turnover with foreign countries as the sphere of economic activity imparting dynamism to our economy. In its export activity Foreign Trade Enterprise **AGROS** intends to draw the maximum advantage of many years traditions in the production of highly processed food articles. Poland has in this field long-lasting experience and a number of specialized branches of the foodstuffs industry. We value very highly the confidence of our traditional buyers and foreign consumers in the products exported by **AGROS**. We shall not spare any efforts in order to stand up to this trust gained years ago. As regards import, we shall be buying in ever increasing quantities food products lacking in our country. I am thinking primarily of citrus fruit, tea, coffee and cocoa, wines and cognac, etc. We are faced with the task of a fast increase of the living standard of the population. Foreign trade has an important share in the implementation of this task, through imports. Imports will enable to better and fuller supply



Interview with  
the Managing Director  
of "Agros"  
Mr. Bolesław Goroński

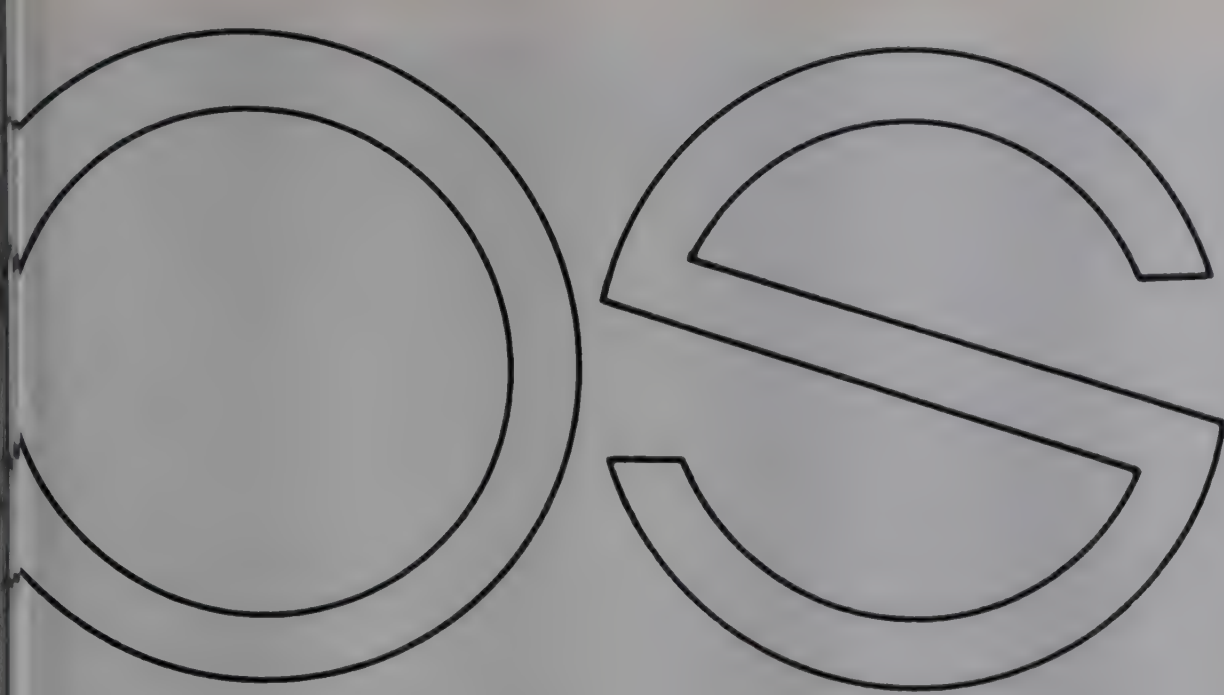
**International  
trade turnover  
as the factor  
imparting  
dynamism  
to the economy**

the home market, to enrich and diversify the range of food articles. In 1971, the foreign trade enterprise **AGROS** imported citrus fruit to the value of 120 million USA dollars. In the nearest years the value of this import will increase three-fold. Our population, numbering over 32 million, represents an important and absorptive market. We are willing buyers and consumers of fruit, especially such which do not grow in our country. Such products as oranges, tangerines, grapefruit, dates, bananas, almonds, nuts, raisins, and many other, are bought by our population in great quantities. They are in particular demand during holiday periods when they simply vanish from the shops. The Polish cooking has been famous for centuries, but the Polish housewife uses large quantities of spices and condiments imported from abroad. The Polish confectionery industry is using every year thousands of tons of cocoa beans, cocoa, etc. Such things may seem of slight importance, but taken together they amount to many millions of dollars in imports. As I have mentioned, however, these products supplement and diversify the supply of the home market. Secondly, such imports increase the demand for our export.

— *You have mentioned the absorptive power of the Polish market for imported products. AGROS is, however, also a big exporter of processed food products. What could you say about the AGROS export offer?*

The **AGROS** export offer comprises highly processed food products, fruit wines, vodkas, tobacco, sweets, etc. Our export offer is supported by the efforts of a large number of production works, associated with the Union of Fruit and Vegetable Indus-





ry, Union of the Confectionary Industry, Union of the Brewers' Industry, Union of the Spirits' Industry, and the **LAS** enterprise. All those Unions associate production plants with longstanding traditions and specialized for many years assortment of production.

Let us mention here, as an example, some of those specialized lines with several centuries of tradition. The Polish vodka, for instance. It is known all over the world and is always in great demand. The very name of this beverage is associated, on all continents, with a drink of Polish origin. The value of Polish spirits, their high quality and taste is best proved by numerous awards at many international events organized during several past decades. In 1971 also, two Polish vodkas were distinguished with awards at an event organized at Brussels by "Monde Selection" — the Polish "Luxury Vodka" received a Gold Medal, the "Pepper Vodka" was awarded — a Silver Medal. I would like to mention here that this international event at Brussels was attended by many firms of world renown, and in such a strong competition food products from Poland gained, not for the first time, a considerable success and recognition. A similar success is enjoyed by the next position on our export list, namely the fruit and vegetable preserves with "Krakus" trade mark. This group includes all kind of jams and compotes, which can boast, like Polish vodka, of many international awards. Jams, compotes and many varieties of fruit wines are produced by highly specialized factories, all with many years' traditions in their particular line of production. Their products feature high quality, excellent taste and high nutritive value. I have already mentioned that **AGROS**

is exporting also large quantities of confectionery products, well known among the foreign customers. All kind of wafer cakes — among them the "Prince Polo" variety — candies, sesame candy and chocolate products. A part of these sweets is supplied by the well known in the world WEDEL factory, with more than 120 years of tradition in the production of confectionery.

For beer fans we can recommend high quality beer produced at Żywiec and Okocim. The different brands of beer from the above breweries have been receiving for many years the Gold, Silver and Bronze Medals at international events.

**AGROS** is also an important exporter of processed forest fruit and products. Our forests are specially cultivated in this respect, the exploitation of the forest products is in the hands of the **LAS** enterprise. Specialists working in various establishments of this enterprise supply for export well known and highly valued preserves of mushrooms, berries and other wild growing fruit. Our export list ends with tobacco. It is worth while to emphasize here that Polish tobacco contains very low quantities of nicotine. Specialists from the Polish tobacco industry are working on the elimination of all harmful substances contained in tobacco. All products included in our export offer have an excellent raw material and processing base, closely cooperating, organized according to the most advanced requirements of science and technique. And this is, very likely, the source of the high quality of products exported by Polish Foreign Trade Enterprise **AGROS**. Our products are bought in over sixty countries of Europe, Asia, North America and Canada.

*Interviewed by  
Józef Korzeniowski*

Despite the fact that there is in Poland the National Information Office, we prefer to "boast" about the new export products of Poland's fruit and vegetable industry personally without the assistance of computers and their "information processing technique". After all we have celebrated recently the "silver wedding" of our export activities, we are well known already everywhere and that is why it is our duty to give our Esteemed Readers some further information about what we have prepared for export deliveries.

# Novelties of the fruit and vegetable industry





Ring Pull type cans of AGROS. AGROS is a trademark of AGROS.



The state fruit and vegetable industry, which for many years now is a supplier of its fruit and vegetable products, which are in modern alimentation one of the basic elements, does not need to present its exports under slogans such as:

— Polish fruit and vegetable products are the most tasty and most wholesome, or

— by buying Polish fruit and vegetable products you will prolong your life.

We need not, as our products are universally renowned. Our industry is constantly and rapidly developing and its assortment of export articles is widening — that is why we wish to present — be it but in a few words — the latest export novelties.

#### **Dietetic preserved dill cucumbers**

— these are thermally (with the use of steam and not chemically) peeled cucumbers, prepared in the traditional for preserved cucumbers way, but with the application of small quantities of alimentary acids and white salt. They are recommended for persons suffering from gastric ailments.

**Cucumber salad** — this is a preserve made of thinly sliced peeled cucumbers, seasoned with vinegar, salt and pepper. Two kinds of cucumber salads are made — with onions cut into slices and without onions.

**Preserved kale** — this is a product made of sliced kale leaves of the "medium-tall, green and curled" variety, seasoned for taste with salt, packed in 1 l tins and thermally preserved. Kale — due to its nutritive properties and mainly because of its considerable vitamin C, mineral salts and chlorophyll content, is becoming a popular and valued vegetable used for many combinations of dishes.

**Frozen kale** — is a product prepared from kale leaves without — as in the case of preserved kale — the main core ("nerve"), which have been subjected to the necessary technological processing and frozen in low temperatures (about — 24°C). The commercial product is packed in polyethylene foil bags and cardboard boxes.

**Frozen Brussels sprouts** — is a product prepared in a similar way as frozen kale. Solely the "JADE" va-

riety, with small compact heads and characterized by similar nutritive values as kale is used for deep freezing.

#### **Preserved Brussels sprouts**

— this is a preserve made of cleaned and trimmed heads of JADE Brussels Sprouts submerged in salted brine (usually in 0.45 and 0.9 l jars) and preserved solely by the high temperature method. It is, some as frozen Brussels sprouts have remarkable taste and nutritive values.

**Preserved potatoes** — this is a preserved product made of thermally peeled potatoes of the BINTIE or PIERWIOSNEK varieties in the form of entire bulbs, cut in half bulbs or 1—1.5 cm cubes. In this preserve a white salt water solution is used as brine. The potatoes are packed in 1 l, 3 l, 5 l and 9 l tins. This is a preserve which primarily facilitates and saves much time in the preparation of meals.

**Preserved chanterelles** — this is a preserve made of artificially cultivated chanterelles which after a technological processing are submerged in a salty brine in 0.2 or 0.5 l jars and thermally preserved. They are an excellent product for preparing various dishes made with these delicious mushrooms.

**Preserved celeries** — this is a preserve made of cleaned root of the celery which is cut into slices and immersed in a saline solution and thermally preserved. The taste and nutritive values of celeries are universally known and their consumption — especially by men — causes them to be in great demand.

**Frozen broccolis** (also called asparagus cabbage) — this is a very tasty product made by the freezing of the fleshy stem and the inflorescence of this vegetable which is approximate to the cauliflower. The nutritive value of broccolis surpasses that of all other cabbage plants as, for example, 100 g of frozen broccolis contains about 3,500 international units of vitamin A, about 1,000 microgrammes of vitamin PP, about 100 ug of vitamin B<sub>1</sub>, about 200 ug of vitamin B<sub>2</sub> and about 100 mg of vitamin C, also about 120 mg% of calcium and about 1.2 mg% of iron as well as about 3 per cent of

protein and about 5 per cent of easily digestible carbohydrates.

#### **Marinated vegetable marrow**

— this is a preserve made of the parenchyma of the melon pumpkin (cut into small cubes) with and addition of aromatic spices, sugar and edible acids. The thus prepared marinade is thermally preserved in 0.5 l jars. The ready product is characterized by an interesting taste and one of the main virtues of this preserve is its high content of provitamin A.

#### **Pasteurized pickled dill cucumbers**

— this is a preserve made of pickled cucumbers which are packed in 3 l, 5 l and 9 l tins in a brine of pickled cucumbers and then thermally preserved.

**Pasteurized sauerkraut** — is processed in a similar way as pickled cucumbers. After the traditional processing the sauerkraut is repacked into jars or tins and is thermally preserved.

**Condensed fruit soups** — are made according to the same principle as vegetable soups, with but one difference, that the basic raw material are frayed parts of fruit with an addition of pieces of fruit and cream. The export assortment consists of the following soups: apple soup; blueberry soup, plum soup, raspberry soup and strawberry soup.

**Black currant "Kremogen"** — is a semi-product in the form of delicate homogenized pomace for the production of juices (soft drinks), soups, puddings, jellies, milk or yoghurt cocktails. After sweetening it may be consumed as such. It is made from the edible parts of black currants and is preserved solely by pasteurization. The generally known nutritive value of the black currant indicates value as a nourishment of "Kremogen".

**Black currant juice** — is a thermally preserved, clear, popular Polish juice made from this nutritive fruit. A novelty in this line is the application of a fashionable and practical packing which is the 0.4 l tin of the "Ring-pull" type. This type of tin has in its lid an easily detachable part which makes the content of the tin easily accessible even for a child, as it can open this tin with no effort.





*Dietetic peeled cucumbers, canned pickled pumpkins and preserved Brussels sprouts same as other AGROS products, prove their identity with the KRAKUS Brand.*



**Unhydrous fruit aromatic substance** — this product is a complete world novelty. According to hitherto received information Poland is the sole maker of this kind of aromatic substance made of fruit. This is an expensive product, as for the production of 1 kg of, for example, apple aromatic substance about 20 tons of fresh apples are used. At present the export assortment contains the anhydrous aromatic substance made of apples and of black currants. These substances are used in the food industry and in the perfumery industry.

**Alcoholic distillate** — this is a product obtained by the distillation of raw fruit alcohol. It is subjected to partial and special rectification and an ageing process in appropriate premises. This product, with a 60—70 per cent content of ethyl alcohol, is used for the production of quality fruit vodkas and Winiaks (a kind of brandy). The export assortment embraces plum, apple and wine distillates.

This short review of some of the products of the fruit and vegetable industry illustrates but a small section of our production. The taste and dietetic virtues as well as the high quality of the traditionally exported products cause that they are in demand on all the markets of the world. We expect that the novelties presented here will be also highly rated by our clients.

*Zbigniew Gryss*

*Preserved potatoes — are also a novelty in the export list.*



# **ZJEDNOCZENIE PRZEMYSŁU OWOCOWO-WARZYWNEGO**

The Union of the Fruit and Vegetable  
industry recommends its delicious products —  
fruit and vegetable preserves:

## **THIS TIME WE PRESENT FROZEN BRUSSELS SPROUTS AND KALE**

Products of the Fruit and Vegetable Industry  
are well known to clients abroad  
and consumers in various countries. Buy  
these products with the KRAKUS Brand  
on the label.

Please apply for detailed  
information to the exporter:

**AGROS**

**Warszawa — Poland  
Żurawia 32/34**





# ŻYWIEC—a Brewery with of traditions

*Robert Jurczakowski*

Żywiec may well be called a brewery with traditions of a hundred years standing. This year 115 years will have passed since the day when Archduke Charles Habsburg laid the foundations for the present business which prides itself of its good quality and tasty beer. The taste of this beer — so the locals of this piedmont country town claim — is influenced by the spring water flowing "straight from the mountains" and the intake of which has been built in the region of the Skrzyczne mountain top. According to experts due to its softness it is remarkable for its therapeutic properties, primarily where the human digestive and urinary systems are concerned. This water is the cause that Żywiec beer has a unique taste and qualities.

A second — no less important — factor, which bears an influence on the taste and quality of the Żywiec beverage, is the up-to-date technology of production. "We have been working on beer technology since many years", told me the managing director of the brewery, Mr. Jan Czajowski, M.Sc. "In this respect we have already considerable achievements. Workers of our research centre dedicate much work to this problem. In the solving of some scientific problems they avail themselves of the assistance of the Institute of the Fermentation Industry in Warszawa". "We test theory in practice" — Mr. Czajowski added — "and we introduce all technological improvements of durable value into production. Due to positive results we have today completely up-to-date brewhouses, an original cooling system of the brewer's wort and fermentation. Our beer is stored in steel tanks of 400 hl capacity. The

era of oak barrels in world brewing interest is over. Beer consumption is rising very rapidly. Thus production must be increased and the carrying out of this task is possible only after the proper modernization of the technology of beer. This is not a simple task and it is difficult to deal with the help of purely technical operations. For one must always bear in mind the most important aim which is the good taste of the beer."

During my short visit to the brewery I noticed that at each work stand great care is taken to ensure precision in the technological process. In the brewhouse man has been replaced by automates since the brewing process has been fully automated. In the cellars, where after the almost tropical microclimate of the brewhouse I sensed the coolness and humidity, the personnel working here has much more to do. Beer storage is a very important process, in which experience, intuition, scent — or in other words the good flair of brewers — are decisive, despite the fact that they also use various measuring instruments. The huge vats are lined on the outside with white tiles. Cleanliness, ideal cleanliness is striking. Perhaps that is why one can sense better the smell of alcohol and hop. Hop is a vital component of beer and its quality has a predominant influence upon the kind of beer bitterness. At first the Żywiec brewery did not have the best varieties of hop, but at present the situation in this line is improving. The brewery is getting hop of high class. That was also so with snalt. Today Żywiec receives snalt from a modern, large malt-house which has been built recently in central Poland.





# hundred years

## Rise in Beer Consumption in ECM Countries

When we left the building the sun was shining beautifully. It was warm but not as warm as in the bottling hall. The heat was generating from vast bottle-washers in which bottles are rinsed in hot water and then are conveyed by a belt conveyor to bottling machines. This operation is carried out most efficiently. It involves much noise as the bottles in conveyance hit against each other. Since hundreds of bottles are moved at the same time this is enough to raise a big noise. In order to eliminate the noise sound-absorbing partitions have been built, but this has not helped much. It is planned to build in the future special partition walls. The automatic machines operate efficiently. Annually they handle about half a million bottles. In addition to bottled beer the Żywiec Brewery ships to clients beer in barrels made of aluminium. The total production of Żywiec and its two subordinate breweries at Bielsko and Cieszyn amounts to 830,000 hectolitres. Of course this is not too much but it is not little too. More than one third of the Żywiec beer brewed is drunk by beer drinkers in Hungary, Romania, Yugoslavia, in the United States, Great Britain and in the Federal Republic of Germany which is renowned for its good beer. This is flattering for the Żywiec Brewery.

I left Żywiec in a good mood. I suspect that the state of my spirits was influenced by the charm of the neighbourhood — beautiful, spacious lakes surrounded by afforested mountains or perhaps, and this is more likely, by the few bottles of refreshing, tasty Żywiec beers which I had.

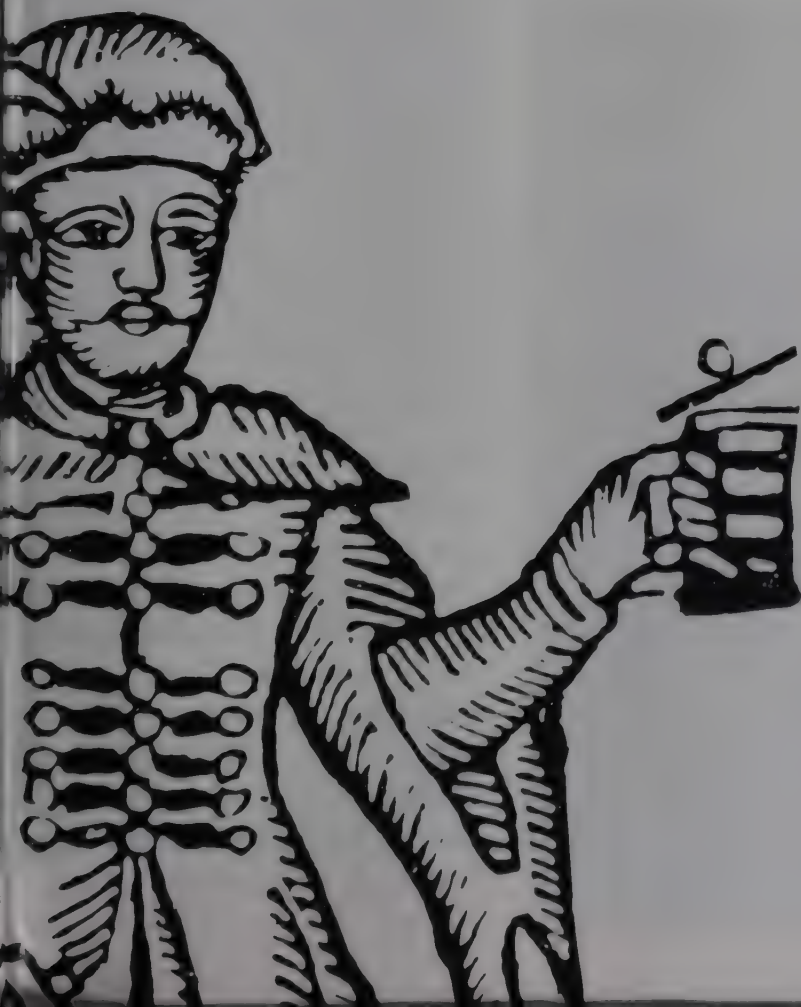
In 1970 beer consumption in European Common Market countries amounted to 70.6 litres per inhabitant, and was 3.1 per cent higher than in the previous year. The biggest consumers of this beverage continue to be the Federal Republic of Germany, Belgium and Luxembourg. These countries markedly lead the remaining countries of this group and especially Italy. The biggest index of increase in consumption amounting to 10.8 per cent, was noted, however, in the Netherlands and the lowest, amounting to 1.7 per cent, in France. Beer consumption in Belgium and Luxembourg is comparatively increasing considerably. Despite a high consumption it has increased by 5.2 per cent. On the other hand in the Federal Republic of Germany this index amounted to 2.6 per cent and in Italy, where the consumption is still minimal, it came to only 3.6 per cent.

**Beer consumption per inhabitant in ECM countries**  
in litre

	1969	1970
Total	68.5	70.6
Average for ECM countries:		
Federal Republic of Germany	135.7	139.2
Belgium and Luxembourg	127.7	134.3
Netherlands	51.8	57.4
France	40.7	41.4
Italy	11.0	11.4

It is worth noting that during the five years 1966-1970 beer consumption per capita in ECM countries rose from 63.7 litres to 70.6 litres, or by almost 11 per cent. The quickest rate of increase of consumption occurred during that time in the Netherlands, Belgium and Luxembourg and in the Federal Republic of Germany and on the other hand in two countries it was infinitesimal.

Among the exporters of beer to ECM countries is also Poland, which exported to Italy and the Federal Republic of Germany 1270 hl and 1186 hl respectively when in the previous year the figures were 162 hl and 952 hl.





# A rich assortment of sweets

The 22 July Confectionery Industry Plant is the present official name of the candy and chocolate factory, already founded in 1851 by E. Wedel. We are beginning with this information because these products have been known to foreign customers for over 120 years. "E. Wedel" confectionery have won a faithful clientele from among wide numbers of consumers from former years. Today, these same products, coming from the same factory, are sold abroad with the "22 July" trademark. These confections with the trademark "22 July" have a famous tradition, reaching back to the beginning of the second half of the 19th century.

The difference lies in the production itself and in the method. The former equipment primitive today was replaced by modern aggregates. Human hands which formerly carried out all the functions connected with the treatment of the raw material up to the final product are replaced today by a modern apparatus, many of the devices facilitating work and giving an immense quantity of products to meet the ever growing demand. But it is not the method, technique or technology which decides the quality of this vast number of assortments of confectionery which the "22nd July" plant produces. The quality and savouriness lies in the closely observed recipe. And that remains a sec-



ret of the workers, who have been handing the secrets of the recipe down from generation formerly at Wedel's, and now at "22 July" plant.

Therefore, we advise you to remember that the Polish confectionery products sold abroad with the trademark "22 July" come from the former "E. Wedel" factory, founded in 1851. The factory has been modernized today because such are the needs of the times in which we are living. And that their quality continues to be the best and competes with confectionery produced in other countries is confirmed by every one who buys and consumes this confectionery.

We shall endeavour to acquaint the Reader with the present day of the factory. The 22 July Confectionery Industrial Plant is the largest combine of the confectionery branch in Poland. It actually includes three factories: "22 July" Plant, which formerly had the name of the founder E. Wedel, "Syrena" Plant, formerly F. Fuchs, and "Milanówek" Plant. There are 400 assorted confectionery products appearing in the production program of the three united plants, among which are such products as: hard and stuffed candies, milk fondants, chocolate, Halva, sesame candy, cookies, chocolate wafer cakes and many others. The "22 July" products are known and highly appreciated by Polish and foreign consumers.

We are in the factory, founded in 1851, a very modern plant today in which products with the trademark "E. Wedel" were eaten by our forefathers for five generations, and where the present generation buys confectionery with the trademark "22 July". This confectionery has its regular buyers in 30 countries of



Europe, America, Africa, Australia and the Near East. The continuation of the export for over several tens of years put the employees of "22 July" under obligation of producing the highest quality, delicious, and let us add without exaggeration, excellent confectionery products.

An inquisitive reporter walking through the vast production halls, looking into the tubs of various dimensions, watching the work of the aggregates without human service, seeks an answer to the question he posed himself — where does the secret of the excellent products lie?

And there, at the very beginning of the production line beside every apparatus, in the laboratory and where the products are being packed, workers are encountered who have been employed here for 40 years and their specialization and know-how exert influence on the savouriness and quality of the products. They know what components and in what quantities are needed for each separate product. They know how to make use of modern techniques. These are specialists of high professional qualifications and frequently are the third generation of the family employed in the factory. This nucleus of workers has inherited the professional traditions and secrets of the firm from the beginning of its existence, from their ancestors, and have handed down the knowledge in this field to the younger workers employed here. Handing professional knowledge down at the workbench is the best but not the only way. The fundamental knowledge and experience in this field people get in the factory Basic Professional Confectionery School and Technicum.



Of the 3500 employees, 70% are women. Knowledge, experience and precision in work give as a whole the high quality of production of the "22 July" Plant. The rest is only facts and numerical data. The "22 July" Factory is automated and works with the aid of the latest achievements of the world confectionery technique.

Almost 20 ten-ton wagons of diverse chocolate products, candies and many other assorted sweets leave the factory every day. These products are destined for Poland and foreign countries.

And thus we have learned from Mr. Sonnenberg, commercial manager, that in the "22 July" factory (formerly "E. Wedel") over 50 thousand tons of sweet products are produced. In 1971, 5,930 tons of various products were exported, including, as depending on the country of destination: caramel products, chocolate, Eastern products and waffles.

Export in 1972 — on the basis of orders and contracts drawn up — will exceed 7000 tons. Products from "22 July" compete as regards flavour with similar products of many foreign firms. The opinion of the foreign merchants on their quality is very favourable.

Consumers of the German Federal Republic, USA, Canada, France and England, Austria and Italy highly appreciate these products, the more so that the firm endeavours to adapt the packings as far as possible to the wishes of the customers.

The sole exporter of products from "22 July" is the Foreign Trade Enterprise "Agros" to which we direct all those interested.



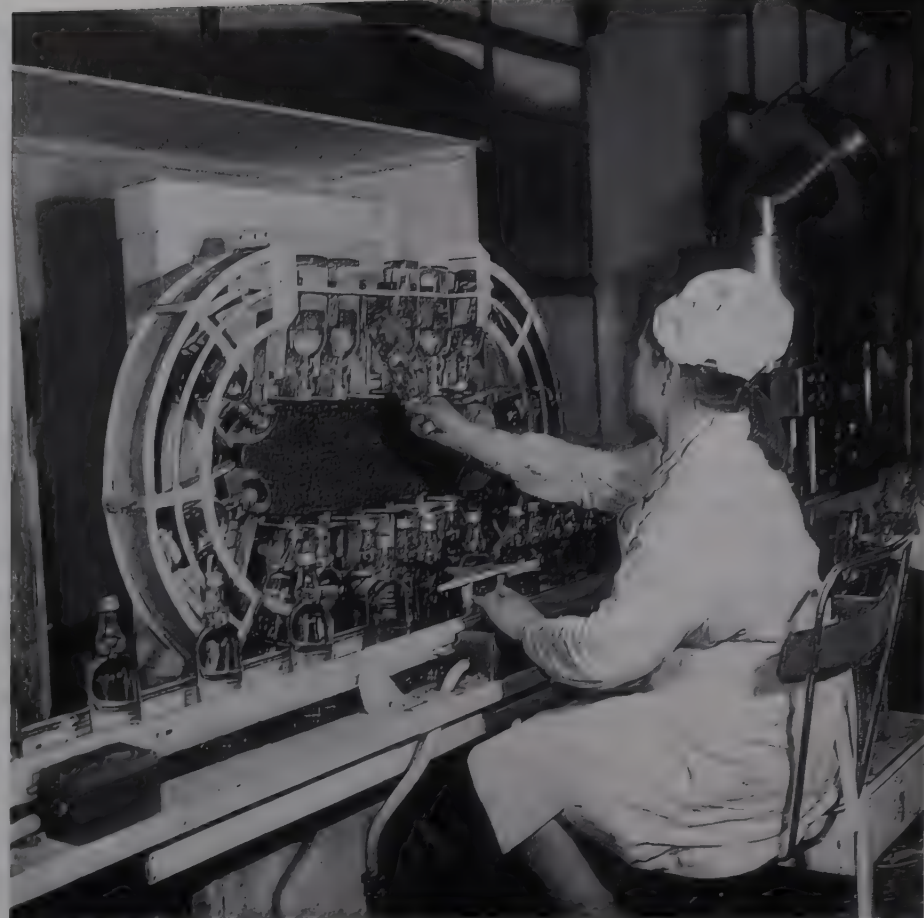
# Four-hundred Years of Experience in Vodka Production

Poland is among the leading makers of various kinds of vodkas renowned throughout the world for their excellent flavour and high quality. Historical sources say that in Poland production of vodkas was rather widespread in the XVI-th Century. The word "vodka" is of Polish origin. The etymology of the word "wódka" (vodka) — indicating its Polish origin — is given by Aleksander Brückner's "Encyklopedia Staropolska" (Old-Polish Encyclopaedia), published in 1939, page 373, Samuel Bogumił Linde's "Słownik Języka Polskiego" (Dictionary of the Polish Language) published 1860, page 569 and by many other sources.

The rich experience in distilling vodka caused Polish vodkas to win international recognition. One of the Italian experts, with the title of professor, was engaged for some time in studying vodkas from various countries. After laborious chemical analyses he stated that the Polish "Żubrówka" (Bison Brand) Vodka is among the world's best. In the opinion of the Italian research worker, in addition to an excellent flavour it has curative properties in maladies of the alimentary canal.

Director Czesław Gaj, who manages the Poznańskie Zakłady Przemysłu Spirytusowego (Poznań Distilleries of the Spirit Industry) and with whom I had a long talk when visiting his distillery, admits that the "Żubrówka" (Bison Brand Vodka), "Wyborowa" and recently also its "younger sister" the pure "Krakus" Vodka of 40° G. I are in the greatest demand on markets abroad. These are vodkas made of first quality rye, which is grown on special soils and ripens under specific conditions of Poland's climate. There is no need to convince anybody of the influence on the taste of vegetables, fruit or rye of climate. This specific flavour of rye is found by judges of Polish vodkas.

Director Gaj said that the Italian professor's findings were followed by an avalanche of orders, especially for the vodka the production of which is based on the curative grass, which originates from the unique from the natu-



ralistic point of view Białowieża Virgin Forest. Three cheers for "Żubrówka" !

"In the world today — Director Gaj said — one notes a faster consumption of pure vodkas, and a considerably slowed down consumption of whisky — or gin — type vodkas. It may be said that this trend is the result of an ever more universal belief that as spirits, and even alcohols in general, vodkas are free from side-effects, which cannot be said about, for example, wine, which despite an excellent taste, in the long run is alas harmful to the liver. One can become convinced of this when one studies French statistics which indicate that the percentage of people suffering from various ailments of the liver is one of the highest in the world. This is perhaps one of the reason for the great march into the world of our already famous WYBOROWA, ŻUBRÓWKA, KRAKUS and LUKSUSOWA Vodkas, all of which have won various high prizes at international events. In recent years "Wódka Wyborowa" won a gold medal at the Olympics in Paris in 1967, a medal and a special award again in Paris in 1970; "Wódka Luksusowa" (Luxury Vodka) was the next to find favour with the jury at the Leipzig Fair in 1966 and, was awarded a gold medal, the "Krakus Vodka won a silver trophy in Ljubljana in 1965 and in the same year the Polish "Starka", which matures in special, oak barrels during a period of 10 years, won at the 800-th anniversary of the Leipzig Fair the Dieses Diplom Uberreicht award. Similar recognition of consumers at home and abroad is being won since many years by superior quality vodkas, especially by "Jarzębiak" (Rovan Vodka), "Wiśniówka" (Cherry Cordial), "Gold Wasser" (Gold Water) and other vodkas. The diplomas and awards awarded to these vodkas are proof that they are tasty to the consummate pallets of connoisseurs.

Successes do not come of themselves — Director Gaj said. Obviously our technologies are top secret. But the technology itself demands careful checking and analyses at each stage of production. Analyses are carried out at the start, beginning with the raw material. Then during



## THE POZNAŃ DISTILLERIES OF THE SPIRITS INDUSTRY

They are renowned for the high quality and excellent taste of vodkas of their production. The KRAKUS Brand vodka is one of those vodkas which can boast of:

- production traditions of five hundred years standing
- delicious flavour
- high quality

Vodkas from the Poznan Spirits Distilleries have won a number of distinctions and medals awarded for high quality at various international fairs.

These beverages are exported by the renowned and reliable exporter — AGROS — Warszawa, Żurawia 32/34, Poland.







the phase of rectification, mixing of components, maturation and bottling. The already filled bottles are tested for transparency and purity of the liquid with the aid of a special equipment for lighting from below. The bottling process is mechanized. The bottles after having been carefully washed in special tunnel washers, are passed on by a conveyor belt to the bottling machine. I watched the process of filling bottles with alcohol. A bottle is filled in a few seconds. The labelled bottles are passed on to the packing hall where they are packed into cartons and are next shipped to 70 countries the world over. For that many countries import vodkas bottled at the Poznańskie Zakłady Przemysłu Spirytusowego. In 1971 the leading group of importers consisted of Sweden, Iceland, the United States, Canada, the Federal Republic of Germany, Great Britain, Norway, Finland, France and Australia. In exports obviously WYBOROWA, ŻUBRÓWKA and CHERRY CORDIAL reign supreme. Economic analyses indicate that every year exports of vodkas increase by 20 per cent. The list of customers is growing — especially in Western Europe countries. The Poznańskie Zakłady Przemysłu Spirytusowego, the largest distillers of vodka in Poland, are among the biggest exporters of vodkas to highly industrialized countries. Thirty different vodkas made by the Distilleries in Poznań have the "Q" quality sign. This fact also explains the high dynamics of exports of the Poznań maker. The quality sign is awarded — after a close examination — by the Instytut Przemysłu Fermentacyjnego (Institute of the Fermentation Industry) in Warszawa and is affirmed by the Główny Urząd Jakości i Miar (Main Office of Quality and Measures). The re-

nowned WYBOROWA, JARZĘBIAK, ŻUBRÓWKA, KRAKUS and SOPLICA — made of a special variety of apples are holders of the quality sign. STARKA, CHERRY CORDIAL and WINIAK contain distillates of Hungarian and French wines. Thus quality signs have been won by both pure vodkas and superior quality vodkas. The Poznań monopoly has great traditions in the production of distilling superior quality vodkas. The former, renowned before World War II, superior quality vodka distillers such as Kantorowicz in Poznań and Kasprowicz at Gniezno, today are branches of the Poznańskie Zakłady Przemysłu Spirytusowego. Thus the Poznań Distilleries have branches throughout the Province of Poznań, which often are renowned and have great experience in the production of spirits. The branch at Leszno, a town known because of the World Soaring Championships held there, has been rectifying spirits for nearly one hundred years. Other branches in the Province of Poznań have experiences in distilling of spirits of several dozens years standing. They have an experienced personnel, which has fathomed the various mysteries of alcoholic products. Some of the employees are working in various departments of vodka production for more than 40 years and very many of them for 20—30 years. The Director of the Poznańskie Zakłady Przemysłu Spirytusowego, Mr. Czesław Gaj has worked in this branch for more than 30 years. The many years of work of a large part of the personnel, from the ordinary worker to the director are a valuable capital, which is wisely put to full advantage by the Distilleries with the aim of attaining for sure the highest quality of its products.



# Cocktail drinks with Krakus Vodka

## MANHATTAN VODKA

*2 oz Krakus Vodka, 1 oz Italian (sweet) Vermouth dash of Angostura bitters.*

Stir with cracked ice, strain into well chilled cocktail glass and serve with cherry.

## ROBIN HOOD

*2 oz Krakus Vodka, 1/2 oz French Vermouth, 1 oz Italian Vermouth, 1 oz Orange juice*

Shake well with cracked ice strain and serve.

## VODKA SOUR

*Shake with cracked ice:*

*2 oz of Krakus Vodka, Juice of 1/2 lemon, 1 tbs. of sugar.*

Dash of sweet Vermouth. Strain into "sour" glass and garnish with cherry and a slice of orange.

## KRAKUS DAIQUIRI

*1 oz Krakus Vodka, 1.5 oz light rum, Juice of 1/2 lime, 1 tbs. of sugar*

Shake with cracked ice and strain into a cocktail glass.







Tadeusz Domagalski



It is commonly known that the British people show a rather conservative attitude towards various aspects of life including and, perhaps first of all, towards the way of feeding. For instance English breakfast always brings back to my mind such traditional dishes as corn flakes, porridge, bacon, and eggs or toast with jam and many others. Such traditional items of a British menu would seem not to be unendangered by anything and what is more, they seem to be an inseparable part of the way of living of the islanders, they are simply attributed to the British. And if to a large degree it is really so, it does not mean at all that there has been no change in this respect.

# Sausages on the British market



A considerable influx of immigrants into Britain after World War II, the mass development of foreign tourism, international contacts in many fields made that the British, who perhaps have not entirely overcome a bias against everything that is not British, and who naturally had to get in touch with the foreigners and therefore — to get acquainted with their different culture and customs — adopted this and that from them in course of time.

Let us take the pork-butcher's products as an example. In the pre World War II days the British almost did not know pork-butcher's products in the continental sense of the meaning of that word. The British-made sausages were in fact the same most popular small sausages of today, in or without casing, mainly of pork but also of beef and mixed — pork and beef, the substantial content of which (up to 60%) being a meatless addition, mostly meal. Such sausages — fried and served hot — introduced a kind of variety into the British menu. They are still rather popular, mainly because of their relatively low prices which correspond to the meat content. One cannot, however, avoid an impression that all those sausages are much the same in taste, poor in flavour, distinctive from same sausages of continental type. And that was, most likely, the reason





why some emigrants, men of initiative, who knew the pork-butcher's trade, undertook, as they used to do in their countries of origin, the production of sausages in England. These sausages — a novelty, on the British market — were accepted at first in emigré circles only. The British — not without reason — assumed an attitude of reserve toward these products. It was just because the products in their quality were not up to the mark of their prototypes. Production of continental type sausages was carried on, and had to be carried on, under different conditions than on the continent. Let us take raw materials. Under conditions of the high farming standards in Great Britain, hog raising showed a high degree of specialization and differed greatly from the hog raising system which was used e.g. in East European countries, a system which is approximate to the natural way of raising. Hence the diametral differences in the way of feeding, fodder content, etc., and hence the different type of pork, both from the point of view of composition, consistency, taste, flavour and so on. But that is not all. While in continental countries top quality meat is used for the production of pork butcher's products in England makers of sausages — for economic reasons — had to

use meat of inferior quality bits and offals disqualified for sale as cooking meat. Also a different set of spices and technological process were used. Efforts also have been made — most often without success — to imitate some, well known on the European continent kinds of sausages, without knowing the "know-how". It is enough to say that apart from the original factory, nobody, even in the same country, is able to undertake the production of some varieties of sausages — in such cases the secret of the "know-how" is so well kept. Nevertheless, the introduction to the British market of these, perhaps even none too successful, sausages of the continental type had met half-way a defined demand, roused interest in sausages among the population and what is more — produced potential buyers, in other words they paved the way for pork-butcher's products from outside Britain. The first real step in this respect was made by Poland. It should be stressed that Poland is a country with very old traditions in the production of pork-butcher's products. Moreover she is a "power" as far as total and per capita production of pork-butcher's products is concerned. Also no other country can equal Poland in diversity of the assortment of pork-butcher's products. One can easily traversy de

Gaulle's saying — "it is very difficult to govern a country, which is manufacturing 60 sorts of sausages". Several factories in Poland have achieved — I do not hesitate to use such an expression — the peak of mastery skill in the pork-butcher's craft. On their achievements few words later on. Poland entered the British market with pork-butcher's products in 1952. The first three years meant no big success — less than 100 tons annually, however since 1955 a systematic increase of exports of pork-butcher's products is being noted, as shown by the table below:

**Exports of Polish pork-butcher's products to Great Britain**

year	tons	year	tons
1955	203	1963	930
1956	268	1964	1013
1957	379	1965	931
1958	519	1966	1157
1959	695	1967	1084
1960	824	1968	1089
1961	939	1969	963
1962	807	1970	874

A certain recession and even regress noted in recent years in the exports of pork-butcher's products from Poland to Britain is explained by the fact that in 1968 exports of rolled middles (one of the bacon assortments) ended and in 1970 some temporary difficulties



**BEST BACON**  
from **POLAND**

**POLISH BACON**  
**LEAN AND TASTY**

occured in the supply of pork on the market in Poland.

The difficulties in exports of pork-butcher's products were overcome in 1971. The excellent quality of those pork-butcher's products enabled us to strengthen their position on the British market, a proof of which is the steady growth of demand.

The joint authors of successes in exports of Polish pork-butchers' products are the majority of factories which export pork-butcher's products. The factory at Krotoszyn should be mentioned primarily. One of our bestsellers — Rolled Gammon in casing, additionally protected by a vacuum sealed plastic bag, is manufactured there. This is really a supreme quality product, delicious in taste, which when cut frees a specific, easy to scent — gentle bouquet of aromas, which satisfies the delicate palate of even the fastidious gourmet. The meat is juicy but one cannot sense superfluous water or juice. It is well bound, so there is no problem in slicing. This product has a long shelf life. A similar product, not worse in quality, is manufactured at the pork-butcher's product factory at Sopot.

Some British makers of pork-butcher's products buy our ham (as well as other pork-butcher's products) as this facili-

tates the selling their own products. Another speciality of the factory at Krotoszyn is the so-called "Ogonowka pieczona". This is the end part of both gammon and loin specially cured and then slightly boiled and steamed. It is next subjected to a refined technological process. The final product is tender and at the same time crisp and tastes excellent.

There is yet another speciality of the same factory — the Dębowiecka Sausage. It is made in the shape of a stick 16 inches (40 cm) long and 2,5 inches (6,5 cm) in diameter. The meat of this sausage is unusually delicate in taste and consistency. Its outward characteristic is the black colour of its casing caused by relatively thick coating of smokehouse soot. The way how to get such an effect is a secret of the factory. Also the Tuchowska Sausage, made in the shape of a wreath, has excellent taste virtues.

Another speciality — in addition to the Rolled Gammon mentioned — of the factory at Sopot is the Polędwica Sopocka. This is the best part of pork loin which has been subjected to a special technological process. Its meat is tender, crisp and perfect in its own taste. Another mouth-watering product of that factory is the Polędwica Wędzona (Smoked Pork Loin). It is made from

the small loin but in a quite different way. The product is remarkable for its great tenderness and its excellent virtues of taste and flavour. It is coated with a very fine layer of fat and is aesthetically packed. The factory at Sopot also manufactures such pork-butcher's products as Baleron (rolled middles — boiled and smoked), Wiejska sausage, Ring sausage and Liver sausage. Among them the greatest popularity has won Wiejska (Country Style) sausage. There are still some consumers who maintain that the Liver sausage is the best among Polish Sausages.

A very popular product on the British market is Krakowska Świeża (Cracow Sausage) which is produced in the factory at Inowrocław. It is valued for its taste virtues.

The factory at Gniezno manufactures one of the most popular sausages — the Krajana (ham) sausage. Besides the factory in Gniezno delivers such products as Kaszanka (Pudding sausage) and Salceson (Brawn) sausage. These products are supported by staunch consumers in particular among the Polish immigrants in Britain.

At present more than 20 kinds of sausages are exported from Poland to the British market. Due to the lack of space only just the most important ones have been mentioned.

All the sausages are labelled with specific, kept in one style bands with the trade mark of the "PEK" brand. This brand is common for all the Polish meat products exported to Britain and it has already won itself a good name. The brand "PEK" on Polish sausages is identified with the Export Enterprise ANIMEX — the main exporter of animal products from Poland. Now a few words on other exporters of pork-butcher's products. Particular countries specialize in a limited number of lines and volume of pork-butcher's products. For instance Hungary is famous for its Salami and — on a smaller scale — Paprica sausage. Salami and salami style sausages are also delivered from the Federal Republic of Germany, Italy, Austria, Denmark. The speciality of Belgium are excellent liver sausages and pâtés.

No country, however, exporting pork-butcher's products can compete with Poland as far as quality and assortment of these products are concerned. Some countries even have attempted to imitate Polish pork-butcher's products but they have failed, so far to succeed. The most successful among the imitators have been Polish immigrant manufacturers in Britain, however, their products have never been as good as those from Poland.

Polish pork-butcher's products, despite considerably higher prices than those of competitive products with a similar look and even sometimes name, hitherto are holding their own in this rivalry.



The largest quantities of pork and beef for the home market and for export is supplied by owners of small farms. They form the largest group in Poland and cultivate considerable areas of arable land.

They do not run large stock-raising farms, as on the whole they are limited by a shortage of farm buildings and fodder cultivation possibilities. Polish farmers, especially small farmers, who own a few hectares of land, usually raise a few or a dozen or so pigs, obviously not counting horses, cattle and poultry. Despite this fact their share in the sales of slaughter animals is very large.

An ever growing number of individual farmers is specializing in various lines of agriculture. This trend has become particularly evident since the government's decisions in the past year to raise the purchase prices of livestock and milk and concerning the giving of as far-reaching possible assistance to agriculture.

Mr. Józef Hładyszewski of the village of Grabin in the province of Olsztyn manages a farm specializ-

# From a peasant's farm yard—to the home and foreign markets

ing in hog-raising. This farm has also considerable achievements in cultivation of agricultural products and cattle breeding. We were particularly interested in the line of hog-raising.

We started our visit with the farm buildings. The pigsty may serve as an example for the province of Olsztyn, as hitherto this was the most neglected domain. We took a good look at the building which is fully mechanized and automated. This farm has an area of 13 hectares of medium class soil. In the cow-shed there are at present four milch cows (one of them called Bura yields annually 7,047 litres of milk), three heifers and seven bulls. Two people, Mr. Józef Hładyszewski and his wife Regina, with the application of technical methods possible to introduce today in the country, is enough to run and manage the entire farm.

In the field cultivation wheat and barley hold first place — their yields per hectare top 40 q, mangel (from 800 to 1,200 q per hectare) and lucerne. About 2 ha are earmarked for pasturage.





The main economic direction is hog-raising. In this small farm some 100 head of pigs of average weight — 120 kg, are raised.

On this farm the pigsty is the proverbial "apple of the farm's eye". The automated pigsty has nine boxes holding total of 54 porkers (nine head per box). The building has central heating, running water is fed to the watering troughs of all boxes. At the top of the building is the fodder store-room and the fodder preparation room. The preparation room has running hot water. All work — as mentioned earlier — is automated — an installed hoist collects the fodder from a cart driven up to the building and conveys it to the store-room. Devices suspended on a rail deliver the fodder to the boxes. These devices have automatic fodder mixers. Other suspended (also on a rail) trolleys take the pig dung out of the building. Under the fodder preparation room are located silos with ensiled potatoes. On the spot are steaming plants for cooking potatoes and other equipment.

Next to the pigsty are wire-fenced pig-runs, a part of the area of which is concreted and the remainder forms a natural environment for the pigs.

As mentioned earlier, only two people work on the farm. On work in the pigsty two and a half to three hours are spent daily. In the farmer's opinion the basis of pig-raising is absolute cleanness of the premisses, abidance by the principles of hygiene in the preparation and serving of fodder, wholesomeness and good breed of the pigs and proper fodder. It should be mentioned here that the State provides veterinary assistance and zootechnical advice free of charge and that outstanding experts of the Instytut Upraw, Nawożenia i Gleboznawstwa (Institute of Cultivation, Fertilization and Pedology) at Olsztyn. Apart of giving assistance sends here many students of agronomy, who wish to specialize in pig-raising, for periods of apprenticeship.

One production cycle in the pigsty in question last about seven months, during which the porkers attain the proper weight. It should be emphasized that despite mechanization and automation pig-raising is carried on under natural conditions. That is why pork is tasty and wholesome. Mr. Hładyszewski prepares the fodder (in proper proportions) from ground barley, ensilaged and dried potatoes with an addition of "T" fodder and Provit (Protein fodder concentrate), it is prepared with separated milk and water.

On the farm, next to the up-to-date porker-sty are some premisses in which a boar and several sows are raised — this ensures an uninterrupted pig-raising cycle. After each shipment of porkers the pigsty is thoroughly disinfected and small repairs are carried out.

Mr. Hładyszewski told us that pig-raising on such scale is profitable and that is why farmers in the village of Grabin and in other villages in the vicinity are turning to specialization in this line of breeding. This is encouraging and opens prospect for the future.



*Henryk Pomianowski*

# Young geese from Poland— Natural Poultry Farming, Up-to-date Production— a Guarantee of High Quality

For many years now at the mas dinners of millions of families in Europe a roast goose from Poland holds its traditional place.

Any consumer may say much about the high qualities of taste of Polish geese, not many persons, however, even from the circle of businessmen dealing since years in this article, can explain what is the essence of the secret of the great attractiveness of Polish geese. A confirmation of this fact is the big interest shown in this subject by our contracting parties abroad when visiting poultry processing plants in Poland.

Information provided by Polish experts and the visitors own observations boil down to the general conclusion that breeding and production of geese in Poland cannot be compared in a simple way with the typical today production of other poultry — such as hens, chicken or turkeys.

Since years the hatching of goslings and goose raising takes place in individual peasant farms.

The dozen or so thousand tons of geese, which are bought by poultry processing plants, originate from some 200,000 such farms. Small flocks of several to twenty geese until these day are an element of the autumn landscape, especially of provinces rich in meadows, pastures and with waste land. Plenty of exercise, on open grounds, fresh air and sun, green fodder of meadows and pastures rich in mineral and vitamin content — that's the primary secret of the taste and nutritive value of the meat of Polish geese.

During the fourth term of the year well-grown geese are sold by farmers to poultry processing plants, where fattening takes place. The so-called "fattening runs", an area of many hectares, on which several tens of thousands of geese form an





interesting and unusual subject for an original photographic picture. Fattening in the plants lasts three weeks during which the geese are fed pure oats and water. In this way they become fully fatted for slaughter.

This is the second secret of the meat's excellent consistency, good musculature without excessive fat and with a typical for Polish geese bright-yellow colour of carcasses.

During the past decades in Poland, as in many other countries, an up-to-date poultry industry has developed. The full mechanization of other poultry such as, for example, broilers, cannot be put to use in the slaughtering of geese.

Visitors from abroad are surprised to find so much manual work on the slaughter and processing lines of geese. Especially labour-consuming is hand plucking, but the feathers thus obtained are rated the highest on world markets.

The highly skilled and experienced personnel of the poultry processing plants takes great care to give the goose carcasses the most attractive commercial look.

Here should be mentioned such processing operations as the careful removal of remains of feathers, proper shaping of the carcasses and the proper deep-freezing process. After packing in colourful bags made of shrinkable plastic foil and then in cardboard boxes the goose carcasses are ready for shipment.

The entire processing operations and the standard of sanitary hygiene at each plant is constantly supervised by the State Sanitary-and-Veterinary Service.

Geese, same as other poultry earmarked for export, must also be examined as far as quality is concerned

by highly skilled employees of the Polish Quality Inspection Office, an independent institution for the checking of export goods.

The experience and professional qualifications of the production personnel of poultry processing plants, the strict checking of the health conditions in production and the export quality inspection — are the third secret of the attractiveness of Polish geese on markets abroad.

The main countries importing Polish geese are the German Federal Republic, West Berlin and Switzerland.

ANIMEX Foreign Trade Enterprise — Import and Export of Animal Products of Warszawa, the sole exporter of Polish geese is not able to cover the demand on foreign markets for this article.

This may seem odd when compared with the known in poultry business circles overproduction of hens, chicken or ducks in many countries of the world.

Since a few years also in Poland there is a tendency of a drop in the number of geese raised and bought, which has an influence on the export possibilities. The causes of this state of affairs are many we will mention but some:

- the progress of the industrialization process
- intensification of agriculture
- natural hatching of geese, which limits the possibility of increasing raising of geese.

The POLDRÓB Union of Poultry production is making efforts aimed at the checking of the drop in geese raising. The main directions of these are:

- organization of geese hatching
- regionalization of raising
- embracement of deliveries of geese by con-

tracts between the farmer-breeders and poultry processing plants

— ensuring farmers assistance in the form of fodder and training in breeding

— application of remunerative prices for breeders. These undertakings and a number of other facilities for farmers should bring in effect a development of raising and rise in the production of geese.

ANIMEX, after examining the present favourable situation on markets abroad, for geese, assesses optimistically the prospects for exports also for the coming years.

In meeting half-way the demands of wide circles of consumers for food articles with natural nutritive and taste virtues we offer the Polish goose, which fully complies with these requirements.

Taking into consideration the constant development of modern commerce in its various forms we are adapting appropriately attractive, and at the same time containing full information for the consumer, packings. The efficient refrigerated railway or road transport ensures delivery of the goods in deep-frozen form to the commercial network of clients abroad.

The high quality of Polish geese, which since years is recognized by traditional consumers in many countries, has been once more confirmed in 1971 by the award of a medal at the Xth Selection Mondiale de la Conserverie in Brussels.

We hope that this brief information about breeding conditions and production of geese in Poland will be of interest not only to our traditional clients and consumers of geese, but also to all persons who in the coming autumn season will for the first time display them in their shops and to consumers who will serve at the Christmas dinner a Polish goose



# Modernness... even in the cowshed

During our reporter's peregrinations we are frequently visiting the country. We are particularly interested in learning how the Polish farmers are living, how are they responding to the new agricultural policy of our government. It is evident that the best answer to this question can be found not in the telltale, but on the farm itself.

Passing Gizycko we arrived in the Kronowa village, stopping at the farm run by Celina and Ernest Herrmann, known for many years as good farmers, but famous only since 1971 as outstanding cattle breeders. Their 35 hectares farm is specialized in three fields: seed plantations of potatoes and grass, modern hog-raising farm — from which over a hundred porkers are sold every year, and, finally, the main object of our interest and the subject of pride and satisfaction of our host — the fine, modern cowshed.

A short welcome, some general remarks and questions, and we follow our host to the cowshed. And here — the first surprise. Mrs. Herrmann apologises and offers white coats, explaining that a special protective clothing must be worn in the cowshed.

Our wonderment passes, however, when we see and "feel" the almost ideal cleanness in all the nooks and corners of this building.

The cowshed has 22 stands for cows, 6 boxes for small calves, accomodating 18 heads, and 3 larger boxes for young cattle, also for 18 heads. Not all the stands

are occupied yet, because — as we have already mentioned — the cattle breeding is at the development stage. It consists now of 15 milking cows, 6 calves, 6 heifers and 6 young bulls. Every stand is provided with a name-plate containing the pedigree and name of the cow, the date of covering and calving, milk output and other data.

All the cattle belongs to the lowland black-and-white N C B breed. The cowshed is run under the care and control of the utility, sanitary and veterinary authority. Once every month it is visited by an inspection team.







quiet — all these factors establish excellent conditions for breeding. Average production of milk amounts to over 5000 litres per year from one cow, ranging from 4830 to 5523 litres in individual cases.

The cattle is fed twice a day. The fodder is prepared from half-sugar beet, grass silage, beet leaves and corn, with the addition of bruised barley and oats. In summer the cattle spends the days on a pasture, special roofed run has been located at the cowshed for winter use by calves and young cattle. The main factors influencing the milk output are, according to our farmer, not only the way of feeding, but, primarily, cleanness and sanitary conditions. Only now we understood why we were asked to done white coats before entering the building — it was in tune with the general cleanness inside.

The type of cowshed we have shortly described in this article is not an unusual thing in the contemporary Polish village. One can meet ever more often this type of breeding farm equipped with devices facilitating human work and enabling its continuous development. This is the best evidence of the interest shown by farmers in cattle breeding, which is more profitable under such conditions. It is also the proof of the positive attitude of the farmers towards the government policy in the field of agricultural economy. General conclusions seem to be optimistic.

Wl. Or.

The cowshed has been equipped with all facilities for a properly organized breeding. All functions have been mechanized, fodder is supplied automatically, excrements are discharged through a special channel into a tank located under the building, the stoneware watering troughs are equipped with automatic batching of running water. The cowshed is of a litter-less type, all stands are laid out with rubber mats. It is obvious that maintaining cleanness under such conditions does not present any special difficulties. Continuous supply of fresh air, sanitary conditions, correct temperature and



# Development of exports of the herb industry

During the recent years we have noted in Poland a marked development of the herb industry. The production of this industry is based on herb raw materials obtained in natural form from contracted cultivations and from imports. More than 60 varieties of herb plants are under field cultivation. Of these about 30 are embraced by contractation and the remaining herb plants are cultivated in Zielarskie Ośrodki Doświadczalne (Herb Research Centres).

The herb industry produces some 400 assortments of herbs in the sorted, powdered, cut and packed form.

It is worth mentioning that the herb industry as a supplementation of its production programme imports about 60 varieties of plants, which, due to an unsuitable for them climate, cannot be cultivated in Poland.

The herb industry in addition to herbs manufactures also medicaments made of herbs in a wide assortment amounting to some 2,000 items and redistilled essential oils in about 25 assortments.

The dynamic development of the herb industry's production is indicated by the value of the production, which increased from year to year and attained in 1971 the value of more than five million U.S. dollars.

The herb industry earmarks a part of its production for export, primarily to industrially developed countries Polish herbs and Polish essential oils made by the HERBAPOL herb industry are

renowned both on European and overseas markets, and primarily in the United States and the Federal Republic of Germany as these two countries are the biggest buyers of products manufactured by the herb industry. Here are some data indicating the growth of these export.

In 1965 exports of herbs attained the value of 1.5 million dollars and of essential oils 0.2 million dollars, or jointly almost two million dollars, and in 1970 the value of exports of the herb industry amounted to more than three million dollars.

A big rise is being observed primarily in exports of herbs. On the other hand we note a smaller increase in exports of essential oils. This is connected with the difficulties in obtaining appropriate raw materials in the group of essential oils. The shortage concerns mainly cetin which is the basic raw material for the production of pine and spruce essential oils. The limitation of exports of essential oils has been caused also by the rise in the demand on the home market for





These products of the herb industry.

It is worth noting that in the group of herbs the most important export item is caraway seed (*Fructus carvi*) which is mainly directed to the German Federal Republic and the United States. During the years 1971—1975 a marked development of the herb industry, of its production potential and the building of a number of warehouses in various districts of the country is foreseen. These new storage facilities will permit a better storage of herb raw materials and of the finished products of this industry.

It is planned that during the present five-year plan the herb industry will be provided with up-to-date machines and equipment and primarily with herb packing machines, herb drying rooms, evaporators and other machines and equipment, which will be imported from highly industrialized European countries.

As a result of these investments and of the improvement in the

packages a high rate of increase of exports is expected by 1975—amounting to about 40 per cent in comparison with 1970. The attainment of so considerable a rise in exports is foreseen as the result increased sales of such cultivated raw materials as: caraway seed (*Fructus carve*), blue poppy seed, mint leaves, Valerian (*Valeriana*) root-stock, roots of lovage (*Leavisticum officinale*) and Angelica (*Archangelica officinalis*) and spice raw materials including marjoram herb (*Herbs major-anae*), thyme (*Thymus*), savory (*herba saturelica hortensis*), tarragon (*Artemisia dracunculus*) and sweet barel (*Ocinam basilicum*).

The elaborated programme for the development of contractation of raw materials for the herb industry and the intensification of cultivation should bring about an increase in the production of the herb industry both for export and for the production of herb products for the home market.

It should be emphasized that it is planned to increase exports of

abraded and cut fine raw materials which are in particular demand on markets abroad.

The but few developmental plans of the herb industry presented here face this industry new tasks involving a dynamic increase of production.

An important element in this industry are warehouses and silos for loose materials, the building of which will have priority during the current five-year plan. This will considerably increase this industry's possibilities of storage and will contribute to the ever better handling of herb raw materials.

It should be added, that the products of this industry with the HERBAPOL trade mark are assessed by clients abroad as articles of a high and unique quality.

**ROLIMPEX Foreign Trade  
Enterprise is the exporter  
of herbs. Essential oils are exported  
by CIECH Import and Export  
of Chemicals Ltd.**

# HERBAPOL—





# POLISH SCIENTIST



## *The scientist with production experience*

The growing demand for food and agricultural products requires further intensification of agricultural production. The agriculture alone does not solve, however, all the problems connected with meeting the social demand. We must streamline and modernize the food and agricultural industry. This requires not only new machines and equipment, but also — and perhaps primarily — advanced technologies which could guarantee fast processing of foodstuffs. These technologies should provide in effect fully valuable product containing all the natural components needed by human organism.

The continuous perfection of technology in the foodstuffs industry is the problem rankling today scientists of many countries.

The Polish scientists are also actively occupied with this problem, which plays in Poland a dual role. We are a country with growing demand for foodstuffs, and we have also the ambition to maintain on the world market the position of the leading exporter of food and agricultural products. The Polish achievements in this field are highly regarded in the whole world. Well known are the achievements of Polish scientists in the field of smoke-curing, i.e. the synthesis of the curing smoke or the technology of production of artificial albuminous sausage casing.

The research carried out in the field of technology of processing foodstuffs are diversified, depending on the specialization of individual research centres. Research work of considerable importance is carried out in Poznań by Professor Dr. Wincenty Pezacki. Professor Pezacki is in charge of research work carried out at the Institute of Technology of Food Products of Animal Origin at the Higher School of Agricultural Sciences in Poznań, and is occupied — which is easy to guess — with the technology of meat. Professor Pezacki is a well known scientific authority not only in Poland, but also in other countries of the world, his 213 scientific papers and publications devoted mainly to the technology of meat have been translated into six foreign languages, among them into Japanese. A particular attention among those publications is deserved by a four-volume series of textbooks. During my visit in his study Professor Pezacki opens one of these volumes entitled "Technological deviations in the quality of meat products", showing me numerous tables provided with references to individual chapters of this textbook. This book is analyzing some 200 technological deviations of lard, pork-butcher's meat products and canned meat, explaining the relation existing between such quality factors as taste, consistency, aroma and colour, and various technological processes.

The task of a meat technology engineer is extremely complex and arduous. He should be

perfectly acquainted with the properties of different kinds and grades of meat, with chemical compositions contained in them, and — what is of paramount importance — he should clearly see the purpose of his work. This purpose, according to the Professor, consists not only in enriching the methods of processing such raw material as meat, but in finding optimal solutions for this processing, not only quantitative and according to value, but primarily qualitative. The technology engineer working in the industry must be able to answer the following question: what should be produced from the given grade of meat in order to obtain the best effects. The contemporary specialists are assisted in this work by linear programming and network calculus. In this kind of work one takes into account the value or profitability of meat production, or the quality of the product, i.e. the natural taste and nutritious values.

The function of final target is changing in these calculations, the final effect is the selection of the proper procedure. These methods are applied in practice by Professor Pezacki and his collaborators. There is an Experimental Establishment attached to the Institute, which apart from its didactic role plays also the role of a normal production plants. The Professor has shown me around this establishment. It consists basically of two sections — mechanical processing and heat treatment. The establishment employs old craftsmen and students, which are learning to make different meat products. The recipes are worked out in the Institute. On the basis of a selected recipe the Experimental Establishment undertakes the production of a given meat product. Final products are sold in the school shop and students-consumers assess their taste value. In case of a positive assessment the Institute is handing over the proved technology to meat processing plants in the whole Poznań region.

As appears from the above description, the Institute directed by Professor Pezacki maintains close relations with the industry, combines studies with production. This principle of combining theory with field practice reflects the whole life attitude of the Professor. Before the war the present professor was working in a meat factory before beginning studies at the Veterinary Faculty of the Warsaw University. After habilitation degree at the Maria Skłodowska University in Lublin, already after the World War II, he was closely connected with the industry, before receiving the Chair of Meat Technology of the Higher School of Rural Economy in Łódź.

The next stage in the life of our professor was the Higher School of Agricultural Sciences in Poznań, first as Head of the Chair, and next of the Institute of Technology of Food products of Animal Origin. During all those years some 300

graduates have completed studies under Professor Pezacki, seventeen classes with Master's degree and eleven classes with the degree of engineer. Professor Pezacki has also supervised ten doctor's theses and five habilitations.

Professor maintains close contact with his former students. They are meeting at periodical events, which apart from their social function supply rich experiences from the industry for utilization in the didactic work of the Institute. Such practice has created strong ties between the Institute and the industry, facilitating modernization of meat processing methods on an industrial scale. In many cases the Institute, and frequently the Professor himself, are aiding specialists employed in the industry, offering valuable advice. Sometimes this assistance concerns recipes for meat processing, in other cases it affects problems connected with the utilization of new types of equipment used in the production of meat products. Mechanized equipment affects considerably the taste properties of meat products in spite of the fact that high quality raw material is being used for production. It is maintained by some specialists that mechanized production lowers the taste value of meat products. In such cases the taste and aroma can be improved by means of synthesis of defined compounds. The scope of work of the Institute covers also such problems.

Professor Pezacki demonstrates some test-tubes filled with a liquid looking like a strong tea. But the aroma is not that of tea — it is the savoury aroma of a roast pork. With the help of such "magic" it will be possible to use some grades of meat for completely new kinds of meat products. It will be possible to impart to beef meat the taste and other properties of pork. The proper course of fermentation of carbohydrates in meat products has a considerable influence on the taste of raw meat products. Professor Pezacki has applied radioactive isotopes for the study of the fermentation processes, applying the results of this research in practice. The scientific and didactic work, meetings with old students and contacts with the industry, occupy the whole time of the Professor. And there are various conferences and meetings with other specialists in this field. Professor Pezacki willingly takes part at an international conferences, congresses and symposia. Among other, in October 1971 he took part at an international Symposium in Frankfurt am Main, devoted to the "Progress in Production of Food Products, with particular attention paid to proteins, enzymes and aromatic compounds". It can be safely stated that Professor Pezacki, as a scientist and production specialist in one person, is working on the progress in the technology of meat — one of the basic products of mass consumption.

R. Jur.





*Kreowski Jerzy*

# The Role and Tasks of Polish Plant Breeding on stations

The dominant role of the seeds quality in the cropping capacity of cultivated plants sets tasks of great importance and responsibility on breeders of new varieties of plants and on producers of seeds.

Providing the necessary quantities of mineral fertilizers, pesticides and other modern production means, vital for securing favorable conditions for the plants implies that the variety is a first-plan factor of the intensification and of the further progress in the plants production. Thus the economic effects are not ultimately depending on deliveries of the means of production but on the farmers' ability to utilise fully the biological potential of a variety.

Plant breeding and seed production are thus becoming basic, special sectors of agricultural economy. Their tasks include the supply of improved varieties of cultivated plants. The basic requirements imposed on new varieties are first of all: high fertility and utility, resistance to diseases, persistence in yields and capability of responding to intensive fertilization by increased crops. Moreover a new variety must be adapted to the definite soil and climate conditions of the cultivation region.

These requirements of agriculture indicate the main directions of the breeding work and determine its place among other branches of agricultural production.

In Poland the plant breeding and the seed production are a separate, specialised branch of plant production.

Though several institutions with various scope and kind of activity are engaged in plant breeding the Union of Plant Breeding and Seed Production (Zjednoczenie Hodowli Roślin i Nasiennictwa) is responsible for the production and for the supply of certified seeds for every agricultural region of the country. It is also the only supplier of agricultural seeds to the Foreign Trade Enterprise Rolimpex and of seed potatoes for the Foreign Trade Enterprise Polcoop.

The Union of Plant Breeding and Seed Production cooperates closely with the Institute of Plant Breeding and Acclimatisation, the Potato Institute and a number of Agricultural Academies and with the State Commission for Classification of Varieties. The Union of Plant Breeding and Seed Production is member of FIS (Fédération Internationale du Commerce de Semences), it participates in the work resulting from Poland's membership of the International Seed Testing Association (ISTA), International Institute of Beetroot research, the Committee of Agriculture of the Economic Commission for Europe (ECE), the Food and Agriculture Organisation (FAO), the Organisation for Economic Cooperation and Development (OECD).

The rank of the Union's tasks is proved by the fact that some 80 kinds of agricultural plants are calculated actually in Poland. They are all embraced by the breeding work tending to obtain better and more fertile varieties. The annual supply of certified seeds to home market amounts to about 600.000 tons and of seed potatoes to some 1.200.000 tons. The value of seeds being object of yearly turnover exceeds 9 milliard zlotys while the value of seeds destined for export within the last four years has exceeded in average 1,5 milliard zlotys per year.

Polish agricultural plant seeds are exported to several dozens of countries in various continents. The seeds trade with some countries has had a long years tradition and Polish seeds are highly estimated. This is true especially of papilionaceous coarse and fine grain plants seeds, grass seeds, root crops seeds and potatoes. The achievements of the Union in the breeding are proved by the fact that as many as 132 out of the actually cultivated agricultural plants varieties are varieties bred at the station of the Union.

Breeding and seed production are the main scopes of activity of the Union. The Union consists on 23 enterprises. Five of them are dealing solely with the breeding work, thirteen are engaged solely in seed production, the other five deal jointly in breeding and in the seed production. A plant breeding station is a basic organisational and production unit of the Union. The station's tasks include the breeding work (creative breeding and selection), the production of certified seeds of high degrees and the production activity.

The Union disposes of a network of some 120 plant breeding stations subordinated to the respective enterprises. Depending on the kind of activity the stations may be divided into:

- leading stations which play an important role in the creative breeding and selection work on the respective kinds and groups of plants,

- stations working under the methodological supervision of the leading stations in the creative breeding and selection,

- stations producing certified seeds, mainly in higher degrees.

One of the twelve leading stations is the Plant Breeding Station at Szelejewo in the Poznań voivodship, founded about 50 years ago as a centre of agricultural plants breeding.

After World War II the activity of this station was concentrated mainly on the sugar beet and winter wheat breeding. In 1963 the station shifted to the breeding of fodder plants.

Due to large investment outlays the Szelejewo station has properly fitted out laboratories: phytochemical, cytological, immunological





and physiological. They secure to the specialists of the station proper conditions for the work on the creation of new varieties. First of all they make possible the testing of the contents of basic alimentary components in the cultivated plants, the estimation of physiological characters of the breeding material, its susceptibility to diseases, winter-hardiness etc. which permits to eliminate in the course of breeding work all the weaker material and in consequence it speeds up the breeding work.

The station's main tasks are:

- the elaboration of methodology of breeding operations, the fixing of their trends and scope, coordination and comparison of results,
- breeding of initial material for creating new varieties,
- effecting the laboratory work for the cooperating stations at the realisation of the breeding programme in a given group of plants.

Among the tasks of the Szelejewo Plant Breeding Station, as a leading station are the creative breeding and the selection of graminies, alfalfa, winter vetch and horsebeans. In particular these tasks embrace:

- the creative breeding and selection work on existing varieties. As far as the creative work is concerned the activities are parallel to the selection work performed. These varieties are: Italian ryegrass variety Szelejewska (TUR), timothy variety Szelejewska (FOKA), redtop variety Szelejewska (KITA), tall fescue variety Brudzińska (STEF), spring vetch variety Szelejewska (HANKA), alfalfa variety Grimm and winter wheat variety Szelejewska;

- carrying out of certain research work in phytochemistry, physiology, genetics and immunology;

- carrying out of experiments in common with the cooperating stations and elaborating of own results and of those of the cooperating station;

- services to cooperating stations in research and tests;

- cooperation with scientific institutions.

The achievements of the Szelejewo Plant Breeding Station are the production of:

- three varieties of grass characterized by high crops of green mass proper growth of the green mass during the whole vegetation period and by a high utility and taste value;
- two varieties of spring vetch characterized by a rapid development in the initial stage, high yield of green mass and fine grains;
- one alfalfa variety highly resistant to drought, winterhardy, early, characterized by a long period of growth and rapid regrowth;
- one variety of kale;
- one variety of oil radish;
- one variety of high yielding winter wheat.

Besides the Station carries out experiments on a number of new strains of ryegrass, timothy, bent grasses and other kinds of fodder plants.

The cooperation of the Szelejewo Station with scientific institutions, first of all with the Academy of Agriculture in Poznań and the Wrocław Institute of Plant Breeding and Acclimatisation and with the Institute of Cultivation Fertilization and Soil Studies at Pulawy ensures the possibility of current consultations and the utilization of scientific achievements of these institutions.

Conforming to terms of the agreement on cooperation between Poland and the German Democratic Republic the Szelejewo Station cooperates with German breeders in breeding Italian ryegrass and alfalfa.

The achievements of breeding stations are strictly and carefully checked to ascertain the value of a new variety in comparative experiments with other home and foreign varieties. These tests are carried out by the State Commission for Classification of Varieties. The results obtained at the stations of this Commission throughout the whole country give a full picture of the value of the variety examined, its reaction to various soil and climate conditions and form the basis for elaborating agrotechnical recommendations and instructions for the variety.

The Szelejewo Plant Breeding Station disposes of over 1.200 hectares of arable land. Such an area permits the multiplication of superelites and elites (basic seed) and the production of seeds in other degrees of certification. On the area not occupied by breeding a normal agricultural production is carried out and its results considerably surpass those of other farms in this region.

During the past four years the crops of the main cultivated plants have averages: the four cereals — 35 q/ha, sugar beet — 389 q/ha, potatoes 226 q/ha, winter rape 26,4 q/ha.



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## Our place in Europe

On the book market appeared recently a number of publications of the Central Census Office containing data necessary for determining our economic position in Europe. Poland occupies 3 per cent of Europe's area and her population represents 5 per cent of the total population of this continent. Our share in the European economy is, however, considerably higher than it would appear from the above indices.

Our share is particularly high in the production of raw materials. We occupy the second place in the production of zinc ore and the third in the production of hard coal and elementary sulphur, the fourth in the production of copper ore and the sixth in the production of lead ores. We are also in the leading group in manufacture of semiproduces and industrial products. We are on the fourth place on the list of European producers of cotton yarn and sugar, we occupy the fifth place in the production of wool yarn and the seventh as regards electric power and cast steel. We rank very high in the production of ships, lorries and railway wagons.

In the agricultural production — taking into account average crops over the period 1966—69 — we are the first in the production of rape seed, the second in the production of rye, oats and potatoes, and the third in the production of sugar beet. The average value of our total agricultural production per head of population is higher than the average for the whole Europe.

The rate of our development — as compared with that of other European countries — can be best illustrated by the growth index of our national income. The average rate of growth of national income over the years 1966—69 amounted respectively: for Europe — to 6%, for the COMECON countries — to 7.2%, for Poland — to 6.2%.

## Headquarters of Horticultural Cooperatives

The Foreign Trade Enterprise "Hortex" is a cooperative enterprise dealing with the export of fresh fruit, vegetables and fruit-vegetable products, coming from member farms of the Headquarters of Horticultural Cooperatives (CSO). This organization has over 400 thousand fruit and vegetable producers and a hundred odd cooperative processing plants producing for home markets and for export. Such a production base makes it

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possible for Hortex to deliver to its foreign customers commodities of a high quality at fixed time limits.

The Foreign Trade Enterprise "Hortex" has been conducting work for over 14 years among members of horticultural cooperatives, aiming at a systematic improvement of the quality of raw materials, expansion of the assortment range, improvement of the aesthetic appearance of the packages for export commodities. This task is being successfully accomplished, which after all is manifested in the steady increase in the volume of exported goods, which are in great demand among foreign customers.

The horticultural orchards occupy about 500 thousand hectares in Poland. This constitutes 2.5% farm use land and the value of production amounts to about 12.5% of the entire plant production. Scientific achievements are applied as regards horticultural cultivation, and owing to agro-technical measures and instructions given to each member of the cooperative, cyclicity of crops in pomiculture has been entirely eliminated, or limited to the minimum. The production of winter varieties of apples has been considerably developed. Plantation areas of berries, especially strawberries and black currants, have been considerably expanded. The drop in the production of strawberries, noted for a short time, has been evened out in the current season. Horticultural cooperatives likewise record great success in the production of garden vegetables. Growing of French mushrooms is developing excellently.

Owing to the expansion of store-rooms, warehouses and refrigerator plants, the export of these products has ceased being seasonal. "Hortex" at this moment guarantees their purveyors the delivery of articles of garden derivation throughout the entire year. Hence, one may expect that "Hortex" will achieve still better conditions in 1972 and the subsequent years for carrying out its export offers in conformity with the requests of their contracting parties. The more so that Mr. Tadeusz Kolinski — former director general of "Hortex", well known to the consignment of our firm, has been elected president of the Management Board of the Headquarters of Horticultural Cooperatives.

## Polish Packaging Symposium

Modern solutions in the packaging industry in the light of the user's requirements were the subject of

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a scientific-technical symposium held in Gliwice on December 10, 1971, organized by the Government Commissioner for Packaging Matters and by the Regional Branch of the Chief Technical Organization of Gliwice.

The symposium was attended both by representatives of factories producing paper, cardboard, pasteboard, wooden, plastic and metal wrapping materials and also by the users of the wrappings — product manufacturers and representatives of inland and foreign trade. A total of 110 specialists from all over Poland participated in the meeting.

Matters connected with packaging in the light of the new economic policy, meeting the immediate needs of the consumers, and also in this connection cooperation of the packaging industry with the customer and the user against the background of world experiences were the principal subjects. Matters pertaining to the cooperation with the customers and users were dealt with by the representative of The Metal Box Company of Great Britain. The Symposium was illustrated by films and by an exhibition containing the most interesting solutions of packages produced by the British firm mentioned.

The scientific-technical Symposium confirmed the needs for increasing and expanding information, especially as regards marketing and cooperation of the producer with the user of wrappings. Participants of the conference confirmed the necessity for more frequent organization of such meetings. It was decided that in view of the demand and systems of the establishments working for the packaging industry, such symposia should also be organized in other centers.

## Investments of Particular Importance

Investments in the food industry were quite casually treated up to 1970. And it frequently happened that for want of adequate means, they fell victim either to a reduction or to a shifting the time limit of the delivery to a later date. Having in mind an increased production of meat and vegetable industries and the growth of the entire food industry, decision was taken within the framework of the new agricultural policy to give priority to a number of investments in this industry. In accordance with the resolution of the Polish Government the building of meat combines and pork-butcher's meat fac-

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ories, cold stores and dairies and also grain elevators was acknowledged as being particularly important.

Some of these plants began to operate in 1971, and others will be completed in 1972. This will enable to supply the home market better and to increase the export of Polish food products, traditionally in demand abroad.

## Ionizing radiation for preservation of foodstuffs

Preservation of foodstuffs is one of the important problems focusing the interest of scientific circles all over the world. In the recent years attention was drawn to the nuclear energy as the possible means of preservation of food. Research in this field is at the most advanced stage in the U.S.A., in the Soviet Union and in Canada. In Poland the problem of food preservation by means of radiation is studied by scientists of the Institute of Radiation Technique at the Łódź Technical University. Laboratory research has shown that a suitable dose of radiation (harmless for human organism) enables preservation of many kind of foodstuffs and extends their shelf life. For instance the use of radiation for desinsection of grain (combating the storage pests) does not increase the temperature and does not introduce foreign substance into foodstuffs.

Good results have been also obtained with the use of radiation in storage of fruit and vegetables. It extends their life — which is of particular importance at sale and export of strawberries and blackberries. The new method opens also new possibilities in the field of controlled ripening of citrus fruit and bananas and in stopping the germination of stored potatoes (main cause of losses). The use of ionizing radiation for sterilization of bacon, ham, poultry and fish has been also found advantageous. Products stored in this way will retain for considerably longer period their natural appearance and freshness.

## How to Increase Deep-Sea Fishing Catches

Deep-sea fishing catches, especially on seas and oceans surrounding densely populated regions of the world, are rapidly falling and so, for example, on the Barents Sea, during the past year only 100,000 tons of cod were caught, or three times less than a few years ago. Catches of herrings are decreasing even more rapidly. In



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waters surrounding Norway this drop, since 1966, is thirty-sixfold. Also flounders and sea bass are found ever more rarely in fishing nets — and that is so despite the fact that the fishing fleet has at its disposal ever more modern equipment for detecting, attracting and landing fish.

The main cause of the extenuation of the sea fauna, especially in coastal waters, are generally known. Various kinds of chemical pollution kill living organisms — and the growing sea traffic scares away shoals of fish, which migrate to quieter regions. Moreover a negative role is played by predatory fishing — the violation by fishing vessels of limitations set with the aim of protecting fish during the spawning season.

Despite these facts the seas and oceans continue to be an inexhaustible source of food. Experts estimate that at a rational economy (management) from these sources some 30 milliards of people can be fed and at the same time they point out new methods of a rational management of these resources. One of these methods is the setting up on shoals — shallow coastal areas — fish farms (fish-cultures). Particularly favourable conditions for the setting up of such farms exist in the Baltic Sea. In the bays and coastal waters of that sea can be set up plantations of marine plants and an intensive fish-culture, based on the giving of additional food, can be carried on.

On such farms the bottom of the sea will be a kind of a pasture land which fish will not leave despite of the lack of any kind of fences. As it is, in the cases of fish-cultures of valuable species of fish it even pays to use fences.

Such submarine farms are being set up by the Azov-Black Sea Institute of Marine and Oceanographic Economy. This Institute runs a farm on which oysters and marine molluscs are cultivated. The catches of these species landed during three years fully covered the outlays for the setting up of the farm. From one hectare of this farm eight tons of mollusc meat can be obtained annually. Also fish-cultures are being set up. At the Soviet Black Sea coast a flounder fish-culture is being set up. Similar fish-cultures for other species of fish are being set up in the Barents Sea and in the Bay of Riga.

## The Old and Modern Art of Cooking

Much is said and written about gastronomy. GASTRONOMY — a word of Greek derivation — means

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the theory of the art of cooking. The objective of gastronomy is the gratification of the requirements of taste in a sophisticated way. What do we know of its history? The culinary art is the consequence of civilization. There are definite facts for this. When the known French traveller — Dumont D'Urville visited Negro tribes in Africa, he first investigated all their kitchen utensils and according to them judged their degree of civilization. The art of cooking in primitive times obviously did not exist. The first cooks surely were soothsayers. When offering an animal as a sacrifice to gods, they tore it apart into different pieces, tasting it themselves and then gave it to others. The Greeks became acquainted with the culinary art considerably later during the time when they came into closer contact with Asiatic culture. The culinary art soon developed so greatly in Greece that many Greek countries such as Lydia, Sicily, Thebes, Athens were famous for their sumptuous food and mastery in the culinary art.

Greek philosophers generally opposed this excess in eating, there were, however, such that extolled gastronomy in verses or devoted their theoretical dissertations in prose to it. The Greek poet Archestratos (he lived during the epoch of Dionysius the Younger) became famous in that field. He devoted himself to extolling gastronomic matters and displayed his skill in the poem "Hedypatheia" cited by Aristotle. The Grecian culinary art passed to Rome together with the Grecian culture. Cook slaves were in demand here at every step. They were richly paid and the Roman rich ruined themselves for fanciful and sumptuous dishes.

The sybarite Gaius Apicius was renowned during the times of Emperor Tiberius. The only ancient cookery book, preserved to our times, is ascribed wrongly to him — "De re coquinaria" from the III century A.D.

The Roman kitchen differed from the Grecian one by its barbarian excess and relish for queer dishes. The description of the feast at Trimalchion, written by Petronius, is famous. Among other dishes brought in during the feast was a boiled calf with a helmet on its head. It was carried in on a silver dish weighing 200 pounds. A moment later, the chef dressed up as Ajax (Trojan hero), entered the feasting hall, and, drawing his sword, cut the calf up into pieces as if in madness, sticking them on the sword's end and serving them to the surprised guests. Then cakes and fruit were

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brought in, specially prepared in such a way, that with the lightest pressure, shot the excellent drink right into the mouth of the guests. Then fieldfares in wheat flour stuffed with raisins and nuts were served, then a goose and fish, pork meat and many other unusual dishes.

Nightingale and peacock tongues and other dainty dishes were served at another rich Roman's — Heliogabalus.

During the Middle Ages, much was eaten and spicy dishes were relished. The art of cooking is raised during the Renaissance, especially at lordly courts. The feasts of the Prince of Este and Medici were very famous at that time.

The French kitchen is derived from Louis 14th, a great gourmet of those times. Since his epoch, the French kitchen has dominated in Europe. The French kitchen was in its prime during the times of Louis 15th and at that time indigestible food was excluded from that kitchen. The most eminent people were then interested in the art of cooking, among such are famous French Cardinal de Richelieu and Madame de Pompadour. After a short downfall which followed in the French kitchen, it regained its right in later years as an exquisite imperial kitchen of Napoleon's time.

In olden times, the kitchen of the nobility in Poland was simple and not very elaborate. But large quantities were consumed. At the same time, singular dishes appear at noblemen's courts as, for example, at the banquet of Prince Wiśniowiecki, there were bear paws, elk nostrils, beaver tails, elk, bison, auroch or buffalo roast.

A French writer, Beauplan, writing many years ago about Polish customs, speaks about the coloured sauces in which all the dishes swam. He also mentioned that a favorite titbit served as a dessert was mashed peas with bacon. A specific property of the Polish kitchen was the use of very many spices to everything such as: ginger, saffron, nutmeg, pepper, cloves, bay leaves, cinnamon etc. An endeavour was also made to garnish the dishes and the platters. Finally, as regards literature on the art of cooking, the first cookbook, titled: "The Art of Cooking" appeared as early as in 1552. Later on the book entitled "Compendium Ferculorum" became famous. It was written by Czarnecki, the chef of the Princes of Lubomirski of Łańcut. There were several impressions of the book. The first was in 1682 and the tenth in 1788. Hence the genealogy of the Polish kitchen

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undoubtedly is derived from two sources: French and Old Polish. It was also cultivated in the 19th century. It was not without influences of other countries, however. The fact that the gastronomic art is becoming increasingly more popular and includes wider circles of society should be stressed. It has a great effect on the way dishes are prepared. They are becoming better and more savoury. It finds its reflection in literature, especially in literature dealing with gastronomy. The Polish kitchen at present has changed its character while preserving certain culinary and gastronomic traditions. This is expressed in more modern preparation of dishes, in conformity with the principles of today's medicine. The food industry and new technology also exert their influence.

When speaking of the Polish kitchen and its traditions, stress must be laid on the fact that fresh fruit, vegetables and meat used for gastronomic purposes are of high quality because the tradition of breeding and cultivation has been maintained. Precisely this enables to continue the tradition of the Polish kitchen which enjoys great popularity in the world today.

## "The Polish Kitchen Festival" in London

"The Polish Kitchen Festival" was held at the Clifton Ford Hotel in London on January 26 to February 6. In connection with this event, the hotel kitchen was completely dominated by a team of Polish masters of the frying pan under the leadership of the Chef of Polish Travel Office "Orbis" gastronomy — Stanislaus Jarosinski. The Polish kitchen was extremely relished by the Englishmen visiting the Clifton Ford Hotel. The management of the hotel even made note of their regular guests — judges of good food of the Polish kitchen — and good transactions in connection with the Polish culinary exhibit. Among the dishes that enjoyed the greatest popularity were: bigos (a dish of hashed sausage, pork and beef stewed in sauerkraut), beet soup with ravioli, rashers and the traditional pork chop cutlets with cabbage. Game and fish were also served at the Clifton Ford Hotel during the "Polish Kitchen Festival". As a whole the "Polish Kitchen Festival" was appraised as being very successful. The exposition of Polish souvenirs, arranged at the Clifton Ford Hotel during the "Polish Kitchen Festival," aroused great interest.



# HORTEX— an exporter of root vegetables

*Marek Kozłowski*

Root vegetables have a rather big share in the total production of field vegetables in Poland. According to estimate figures for the recent years, root vegetables occupy more than 25 per cent of the area under vegetable cultivation and their crops exceed one million tons, making up almost 30 per cent of the total vegetable harvest in Poland.

In the production of root vegetables carrots — the crops of which exceed 400,000 tons and red beets — the crops of which also oscillate around 400,000 tons, have the largest share (in 1970 the total crops of carrots — 490,000 tons and of red beets — 440,000 tons).

Next in sequence a quite large share in the production of root vegetables have: horse-radish, parsley, celeries. In recent years in many regions of Poland cultivation of scorzonera has also been developed.

A great variety of soils, as well as favourable climatic and demographic conditions are conducive to the development in specialized regions of the production of a rich assortment of species and varieties of root vegetables, the quality of which is appropriate for the demand of the market for fresh vegetables, as well as for the developing fruit-and-vegetable processing industry, deep-freezing industry and for export.

It is characteristic for many regions where cultivation of root vegetables is carried on, that applying of large doses of mineral fertilizers and herbicides is limited to a great extent. This raises the salubrity and taste virtues of vegetables cultivated in Poland (for example very good results are obtained in cultivation of carrots on peaty soils).

In goods production of root vegetables the most frequently cultivated varieties are:

**In carrot cultivation — of the early varieties:** PIERWSZY ZBIÓR and AMSTERDAMSKA. Of these the AMSTERDAMSKA variety has proved the most useful in production as it is a fertile variety with shapely roots of uniform orange-red pigmentation. Because of its rather smooth skin and a uniform colour of its bark and pith, this variety is very useful for sale in retail polyethylene packings.

**Of medium early varieties** — NANTEJSKA, SELECTA and LENKA. Both the NANTEJSKA and SELECTA varieties are highly useful for the requirements of the preserving and deep-freezing industries and for sale in the fresh form, in retail packings. The LENKA and SELECTA varieties are suitable also for longer periods of storage.

**Of late varieties** — on large plantations the PERFECJA variety is most frequently cultivated. This is a very fertile variety yielding cylindrical roots of a deep orange colour. It is suitable for consumption fresh, for industrial purposes and winter storage.

Also the AMAGER and LONDYŃSKA varieties are cultivated for the purpose of storage.

**In the cultivation of red beets** the most frequently raised varieties are:

CZERWONA KULA — a variety characterized by a spherical shape and a blood-red flesh, very good for preserving industry and for storage. This variety is particularly useful for preservation in vinegar pickle — red beets for pickling are mainly cultivated as an aftercrop.

OKRĄGŁY CIEMNO-CZERWONY — a variety with a very good colour of flesh and a high dry sugar and vitamin "C" content. It is good for storage.

EGIPSKI — an early variety with a somewhat flattened root and a red aromatic flesh.

**In the cultivation of parsley** — the leading varieties are the BERLIŃSKA, LENKA and CUKROWA varieties, of which the most popular is the BERLIŃSKA variety, characterized by a conical root and white colour of flesh. It is also useful in the processing industry. The BERLIŃSKA and LENKA varieties are good for winter storage.

**In the cultivation of celeries** the most widely raised variety is the JABŁKOWY variety — early, characterized by a ball-shaped knot with firm flesh. Of the other varieties cultivated in Poland the GLOBUS and NON PLUS ULTRA varieties deserve attention. They are also characterized by a compact and firm flesh and, like the previously mentioned varieties, are suitable for winter storage, too.

In parallel with the increase in production, the interest shown in Polish root vegetables on foreign markets, is also increasing.

During the recent years Poland has been exporting considerable quantities of these vegetables in the fresh form.

Exports of root vegetables in the fresh form by HORTEX the sole exporter already in 1968 amounted to more than 11,000 tons (of which carrots — 6,700 tons, horse — radish — 1,200 tons, parsley — 2,000 tons).

Poland is capable of delivering to markets abroad considerable quantities of the following vegetables in the fresh form:

— Washed consumer carrots in retail packings of 0.5 kg and 1 kg, delivered in cartons.

— Consumer carrots in 25 kg sacks.

— Industrial carrots for the requirements of the vegetable processing industry. These carrots are characterized by high virtues of quality, as in the regions of cultivation of carrots for the requirements of the industry herbicides are not applied and also mineral fertilization is avoided. This makes them fully useful, even for the production of juice for children.



— Horse — radish characterized by exceptionally high taste virtues (buyers of horse radish from Poland appreciate especially its aroma and sharp taste).  
 — Parsley, celeries and red beets and also other vegetables, including scorzonera.  
 Exports of root vegetables in the processed form are also developing.  
 Of processed root vegetables Poland is in a position to export considerable quantities of the following products:  
 — Baby beets in vinegar, packed in 0.45 l and 0.9 l jars. They are highly assessed by customers, mainly because of their intense colour, good taste and lack of fibres. In recent years annual exports amounted to some 2.000 tons.

— Sliced red beets in vinegar, packed in jars.  
 — Preserved carrots — sliced and pasteurized, packed in jars or tins.  
 — Preserved cut celeries in jars.  
 — Mashed beets with horse-radish in small jars.  
 The development of the deep-freezing industry makes possible also to increase supplies to markets abroad of such deep frozen products as:  
 — carrots cut into cubes  
 — sliced parsley  
 — celeries cut into cubes or slices  
 — mixed carrots cut into cubes with green peas and other mixtures with root vegetables added.



*Krystyna Kozłowska*

## Poland — a country specialized in the raising and processing of cucumbers

The climatic and soil conditions in Poland are favourable for cultivation of cucumbers. Thus with the development of fruit and vegetable processing and exports in the years 1950—1970, occurred rather dynamic expansion of the production of this vegetable.

In 1950 the cucumber crop amounted to 111,000 tons, in 1960 — 208,000 tons, in 1969 — 311,600 tons, in 1970 — 440,000 tons. Thus, the production of cucumbers in Poland during the past 20 years increased almost fourfold.

According to estimate figures of the cultivation area and crops of vegetables for the past three years, production of cucumbers occupies about 12 per cent of the total area taken up by the cultivation of vegetables and its share of the total vegetable crop amounts to about 10 per cent.

On the basis of established criteria for the regionalization of the cultivation of vegetables in Poland, the country's regions in which the average temperature in July amounts to at least 18° C, the spring ground frosts and not later than on June 1st, total rainfalls amount to not less than 70 mm in July and 50 mm in August, regions which have soils both fertile, warm and friable — have been earmarked for raising cucumbers.

According to the above regionalization criteria, production of cucumbers in Poland has been mainly concentrated in the Lublin, Warszawa, Poznań, Łódź, Kraków, Kielce and Bydgoszcz provinces. Their share in the total cucumber production is about 65 per cent.

Proper regionalization of the cucumber production in Poland enables the obtaining under conditions of natural environment (without the necessity of the use of mineral fertilizers in large doses) of rich crops of cucumbers characterized by proper taste values and high usefulness for processing, as well as for consumption and export in the fresh form.

Many varieties of cucumbers are cultivated in Poland, both for consumption fresh and for the requirements of the preserving industry, for producing cucumbers in brine and deep-freezing them.

Until lately the MONASTYRSKI variety was dominant in production. This is a rather early and fertile variety yielding vegetables suitable both for processing and for consumption fresh. Recently it is being increasingly superseded in production by varieties which are of better quality and more fertile, such as for example the VISCONSIN variety which is now being cultivated in Poland. In Poland's soil and climatic conditions this is a very fertile variety, resistant to diseases and yields, like the MONASTYRSKI variety, fruit suitable for the production of preserved cucumbers and cucumbers in brine, as well as for consumption in fresh form.

Also the HOCUS variety (imported from Holland) is a success in production and yields a big crop of fruit suitable for use in the preserving industry.

With the growing demand for cucumbers of the preserving type, the Research Institute of Vegetable-Crops has nursed several interesting heterogenous varieties which satisfy the requirements of the industry. In strict production tests, carried out during the past two years, these varieties showed great fertility, immunity to diseases and

high quality of fruit. Especially promising seem to be the POLAN and LECH varieties, which probably in the next few years will play a rather vital part in the production of cucumbers for industrial purposes.

The development of the deep-freezing industry is causing also a higher demand for salad cucumbers, used in the production of sliced cucumber salad. So far, in this group of varieties mainly the DELIKATES and WARSZAWSKI GRUNTOWY varieties were cultivated. Recently, the list of varieties has been enriched by two new varieties of salad type cucumbers: DELICIOUS and RARYTAS. These are rather fertile varieties, characterized by a smooth dark-green skin and a delicate taste. As the production of cucumbers develops, so does their processing. The main lines of the cucumber processing are: production of cucumbers in brine, pickled dill cucumbers, cucumber salads and deep frozen sliced cucumber salad.

The socialized industry manufactures now more than 75,000 tons of the above mentioned processed cucumbers, of which the share of the horticultural cooperatives amounts to some 37,000 tons.

Due to the high taste and quality virtues of cucumbers of Polish production, their exports are developing, too.

Already in 1968 exports of fresh and processed cucumbers topped the quantity of 27,000 tons, of which some 19,000 tons made up the share of HORTEX. In 1970 total exports of cucumbers amounted up to 32,900 tons, of which the share of HORTEX — 23,300 tons.

So far, in Polish exports of cucumbers the main item are pickled dill cucumbers (in 1970 — 19,500 tons) and cucumbers in brine (in 1970 — 9,800 tons). Pickled dill cucumbers exported by HORTEX in 1970 amounted to 12,100 tons and were shipped to 21 countries. The main purchasers are: Czechoslovakia, the German Democratic Republic, Great Britain, Australia, Denmark, the German Federal Republic, West-Berlin, and Norway.

Exports of cucumbers in brine, accomplished by HORTEX in 1970, amounted to 7,700 tons. The main purchasers are: Czechoslovakia, the German Democratic Republic, Great Britain, Belgium, Denmark, the German Federal Republic and West Berlin.

As a result of a proper technology, proper selection of both raw material and spices for flavour and aroma, our pickled dill cucumbers and cucumbers in brine are highly assessed by customers. Especially highly are valued such characteristics as firmness, delicate taste and aroma (pickled dill cucumbers are mainly exported in 0.9 l jars and cucumbers in brine — in barrels of 60—65 kgs capacity).

There are further possibilities for an increase of export production of pickled dill cucumbers, cucumbers in brine, pasteurized cucumbers in tins, cucumber salads and other processed cucumber products, including deep frozen sliced cucumber salad, due to the development of the deep-freezing industry.

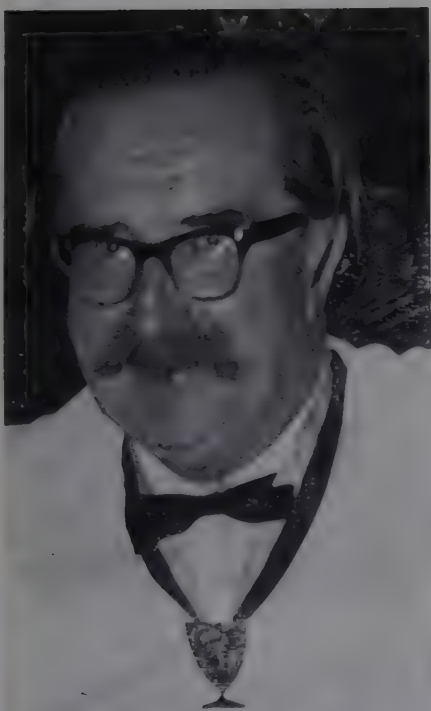
Concentration and high specialization of the production of cucumbers makes possible the obtaining of uniform lots of preservation type cucumbers and their export in fresh form. In 1970 exports of preservation type cucumbers in fresh form exceeded 3.000 tons. The main customers were: Czechoslovakia, the German Democratic Republic, the German Federal Republic, West Berlin and Denmark.







# Dr. Tadeusz Przytkowski — Chancellor of the Chapter of the Pomian X Order



tific work on "coins of the 13th century found in Brzegi on the Nida River" (Poland). He had studied history of art, his fondness was for bibliophilism and he was a gastronomic artist. He combines his fondnesses perfectly. As a bibliophile he was a member of the Chapter of the "White Crow" Order and as a connoisseur of good food, one of the restorers of the traditional "Polish kitchen," a chancellor of the Chapter of the Order of Pomian. Jędrzejów, a small town with a rich tradition of over 700 years, lies on the road running from Warsaw to Cracow. Doctor Tadeusz Przytkowski was the first who lay the foundations under the only — for the time being — gastronomic museum in Poland.

He enjoys the fame of being the wittiest man in Poland, and one of the most learned Poles in the world. Let us add yet that he furnished the Copernicus Museum in Frombork, reconstructed together with his father the astronomic instruments of this great Polish astronomer, wrote tens of scientific works and built several sun dials known throughout the world. Worth stressing that eight clocks in the famous observatory in Greenwich are made by him.

So far as gastronomy is concerned, then onion soup "à la Przytkowski" is already known in France and in other countries of Western Europe; there is a museum priceless collection of gastronomic old prints in the museum of Jędrzejów, and also a history of the culinary art contained in the old kitchen utensils, collected there from the entire world. Thus Doctor Przytkowski is the precursor of the culinary art in Poland.

Doctor Przytkowski, like his ancestors, did not hide the treasures he collected during his life but with a generous gesture turned them over to the state. He still holds the post of director of the clock and gastronomic museum in the 700-year old Jędrzejów.

Pomian-Pożerski is one of the most famous gastronomers of the world. He was of Polish descent. He became famous in Paris and other big cities of Western Europe. The Order of Pomian was established in Paris in his honour. The photograph is of Dr. Przytkowski with the Pomian order on a ribbon hung on his neck.

*Janusz Trzcianka*

It has been known for years that Polish potatoes are characterized by a good taste, wholesomeness and can be stored for a long time. These characteristics, and among them also the nutritive value, are being formed during many years as a result of specialization in this line of cultivation. Poland in potato production holds second place in the world and has particularly favourable soil and climatic conditions for this cultivation and the annual potato crop tops the 50 million ton mark. Polish potatoes are exported to many countries of various continents, including the country of origin of the potato — South America.

In Poland there are entire agricultural regions which specialize in potato cultivation. The best conditions for this cultivation exist in Pomerania. In this Baltic coast zone experienced individual growers (whose knowledge of the principles of raising and cultivating potatoes and resulting know-how are literally passed down from father to son) obtain as a rule big crops.

A network of state cultivation stations localized in the Baltic coast zone cares in Poland for the preservation of a high standard of potato cultivation. These stations systematically provide growers with healthy seed potatoes. Both raising and cultivation of potatoes in Poland are carried on in natural conditions. The technique of field-crop production which is based on the enrichment of the soil of the plantation mainly with natural manure, does not emphasize the highest yield per hectare, but it guarantees Polish potatoes many competitive features.

Purchases and deliveries of such, best quality, potatoes are handled by communal co-operatives, which are linked with the Union of Horticultural Cooperatives to which also belongs POLCOOP Foreign Trade Enterprise. The commercial activities of POLCOOP are carried on in several branch departments. One of the main is the potato-export department, which is a separate department because POLCOOP is the sole exporter both of seed potatoes, edible potatoes and industrial potatoes. During the 15 years of its activities the enterprise has won in this field considerable renown. It willingly signs contracts even for small deliveries of potatoes, as every such transaction contributes to a wider knowledge of buyers, consumers and growers abroad about the virtues of Polish potatoes.

From the Baltic coast region are delivered for export Polish seed potatoes of the "Sientje" and "Sieglinde" varieties. When necessary foreign buyers may always also count on deliveries of edible potatoes of these varieties. As it is the Sientje and Sieglinde varieties are not the only varieties worthy of recommendation. The Polish industrial variety "Uran" has passed its tests with colours flying. The valuable properties of this variety and especially its high starch content induced Austria to buy the POLCOOP licence.

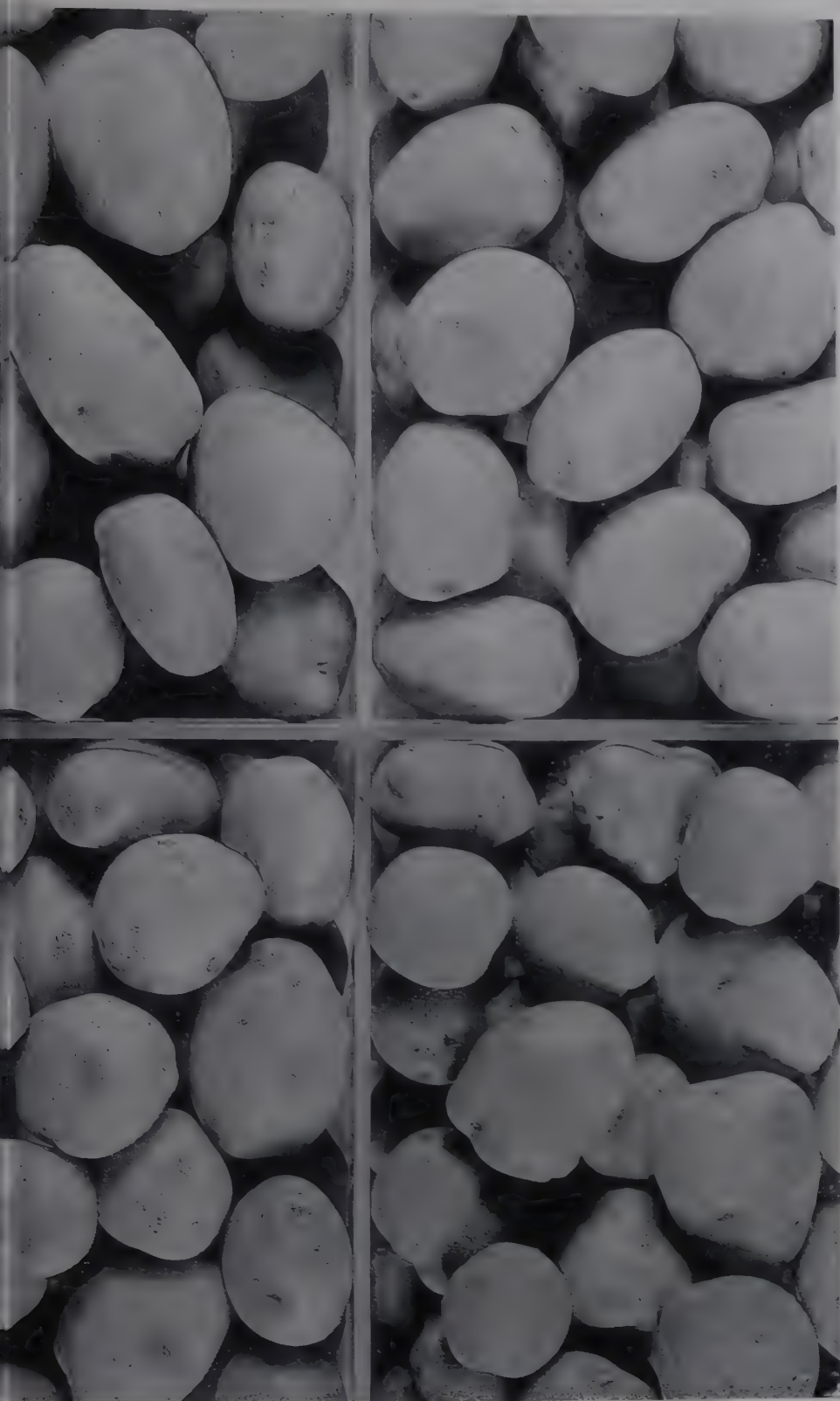
Of the Polish edible potatoes a number of clients prefer the Bintje variety. That is so because of their taste and primarily due to their clean flesh without spots, which preserves its fine look even in late spring. In the case of possible shortages on not a few markets, Poland is able to deliver at the right moment the necessary quantity of this valued variety. This is facilitated by the contractation of crops in Poland's northern regions, from where the varieties in demand

He says that he is descended from the Aryans, who in the 16th century distributed their lands among the peasants and by right of their faith alien to Poles were driven away from Poland in the 17th century. Then these Polish Aryans studied at foreign universities in Leipzig, Paris, London, Leyden and Altdorf. They gained knowledge day after day, year after year, but their yearning for their country was stronger than their hunger for knowledge and slowly they began to return home to their Fatherland. And thus, the ancestors of Dr. Tadeusz Przytkowski, although related with Fautus Socinus himself, leader of the Polish Aryans, returned to the fatherland and settled in Jędrzejów.

Toward the end of the 17th century one of the ancestors of Dr. Przytkowski, Jan Józef Przytkowski, Professor of Astronomy in the Jagellonian University — initiated collecting learned books. From that time, his love for books became a family tradition which was handed down from generation to generation.

Tadeusz Przytkowski was 17 years of age when he published his first scientific





# The gates of potato exports

may be very quickly transported in the spring to the nearby port of Gdańsk. Also the expansion of potato winter warehouses along the quays of ports also facilitates in such cases reliable, quick delivery. We are now on the grounds of these warehouses. They are modern, spacious and are located in the direct vicinity of the quays. A bare 30 metres separates them from the ship and this makes possible the loading of potatoes without damage to their quality even at a temperature of  $-5^{\circ}\text{C}$ . This up-to-date set-up is fitted out with a belt conveyor by means of which the loading of the ship's holds is carried out through an air-conditioned tunnel.

One of the ships is just receiving a shipment of potatoes packed, according to the client's special wish, in 30 kg cases. They will be taken to Singapore by a Polish express ship. The same kind of potatoes we deliver also to Algeria, Iceland and Finland. Packing and maintenance during transport are according to the client's wishes. The exporter, due to a close cooperation with the Export Services Enterprise in the port, may carry out easily various special orders of buyers of potatoes. Recently, some Italian clients wanted to receive potatoes in bags which will not exceed the net weight of 25 kg. This order was carried out, as the said enterprise has in a spacious air-conditioned warehouse special boxes fitted out, among other things with ventilated ducts. A part of the previously brought in sacks by rail cars potatoes are shot into these boxes. After a period of storage they are packed again according to the wishes of the client. Usually edible potatoes delivered by POLCOOP are packed in 50 kg jute sacks.

Before shipment to the port, export potatoes undergo a quality selection, are cleaned and sized. Immediately after arrival at the base in the port they are carefully checked by inspectors from the Polish Quality Inspection Office. Seed potatoes, also after a strict check, receive an attestation of the Provincial Sowing Materials Control Inspectorate. Such seed potatoes were recently delivered from Gdańsk to Morocco. The Polish Seed Plant Main Office which is responsible for the attestations is also responsible for the proper conditions of shipment as far the proper conditions of shipment as far the importer's port.

At the base, imported equipment, including among others, sorting machines, brushing machines and automatic weighing machines, is proving useful in the preparation of lots for export. In the 6-metre-high warehouse the sacks of potatoes are stacked in awaiting delivery to the forecast ship — by the most up-to-date method on storeyed, so called columnar, pallets. An imported from the German Federal Republic high forklift truck facilitates rapid loading from the pallets.

Next to the well developed storage area without airconditioning, a specially air-conditioned hall (some 10,000 cu.m) makes possible storage in darkness and at a required temperature the delivered here potatoes. "The potato export year has already ended for us" — said Mr. Edmund Szewczyk, M.Sc. the Manager of the enterprise and his deputy for technical matters Mrs. Regina Widermańska, M.Sc. (Eng.).

Contracts already signed by POLCOOP foresee in 1972 a more than threefold larger exports of potatoes by sea than during the past year.





The large cisterns for pasteurized musts show the way to the Fruit-Vegetable Processing Factories in Krosno. These factories are the co-operative properties of the Central Agricultural Co-operation, uniting over 4,2 million members — about 30% of village inhabitants of Poland. Obviously, such a large co-operative organization has its own co-operative foreign trade enterprise, known to contracting parties in over 50 countries since 15 years. "Polcoop" Foreign Trade Enterprise avails itself in its export activities of co-operative deliveries above all. This involves both the purchase of goods and production for export. With such assumptions, the establishment of closer bonds between "Polcoop" which is one of the leading Polish exporters of fruit and vegetable products, and production plants, with their production assortment, output and high quality, makes it possible for "Polcoop" to fulfill export contracts negotiated.

## For export from the Krosno processing plant







The Plant in Krosno has specialized particularly in deliveries of strawberry, blackberry and gooseberry compotes in demand on foreign markets. In view of the tendency seen throughout the world to replace chemical preservation of fruit pulps by pasteurized fruit, preserved by thermal methods, the Krosno plants produce precisely such kind of products for foreign customers. Fifty tons each of black currants, berries and Morello cherries were produced for export during the 1971 season here. Strawberries, Morello cherries and black and coloured currants also constitute the raw material here for the production of pasteurized musts. From among vegetables, pickled cucumbers won the leading place in the export of the production plants. About 400 tons have been exported in 0.9 l jars and in tins of various sizes, and also cucumber salad (100 tons in 0.45 and 0.9 l jars) and, especially, preserved beets.







This product is highly appreciated in Great Britain. After all, this is a typical English pickle of a mild taste. Of interest is the fact that the Krosno product has proved to be unrivalled on the English market and actually has ousted import from other sources.

The quality of all the products from Krosno is really high. There has not been even one complaint on the part of foreign customers for the last ten years. Plants have won a mark of top quality for their products. As is well known, processed berries are acknowledged in English foundry regions as being the best antidote for industrial fumes, which naturally stimulates demand for this excellent product from the Krosno factory. This submountainous region abounds especially in fruit of forest undergrowth. There are crowds of pickers cooperating with the factories, supplying berries to the cooperative purchasing centers. A similar technique of deliveries of raw materials has been applied in other cases also. Owing to the cooperation with the neighbouring cooperatives united in the Agricultural Centers Cooperatives and their purchasing centers, fruit and vegetables are supplied for processing without any delay. For instance, purchases of strawberries are carried out late in the evening in order to avoid the influence of the heat during the day that is harmful for the delicate fruit. The fruit bought is delivered early at dawn to the factory and the first shift of workers of the plant

begins work at 6 A.M., having available fresh fruit.

The factories entrusted the purchase and transport of the fresh fruit to cooperative units specialized in this field. Nonetheless, they have already secured supervision during cultivation over the production of fruit and vegetables of essentially highest quality. In the first place, fruit and vegetables are cultivated in neighbouring plantations in several nearby farms on cultivated areas that had been earlier contracted by the Krosno factories, which are under obligation to take over from the planters at the prices fixed the commodities produced according to export requirements. During the winter, the employees of the factories improve the knowledge of the planters on raising the culture of the crops, ensuring a high quality of the fruit and the most modern harvesting technique protecting every value of the product. The Krosno factories cover the costs of new high-yielding seedlings that are novelties for planters from their own means.

A raw material base organized and protected in such a manner guarantees delivery of the desired quantities of vegetables and fruit for processing. A large production hall has been built in recent years, a number of new machines have also been imported from abroad. We see, among others, a stoning machine from GFR and a Danish centrifuge. The modern equipment has been turned over to a trained staff of employees. They are people with a higher education and from special intermediary technical fruit-vegetable processing schools. The production of the cooperative factories in Krosno is not as large as in the industry which is owned by the State, but it is of no less guaranteed quality. Concern for quality is, as mentioned above, the chief imperative of the work of the staff of the factory.

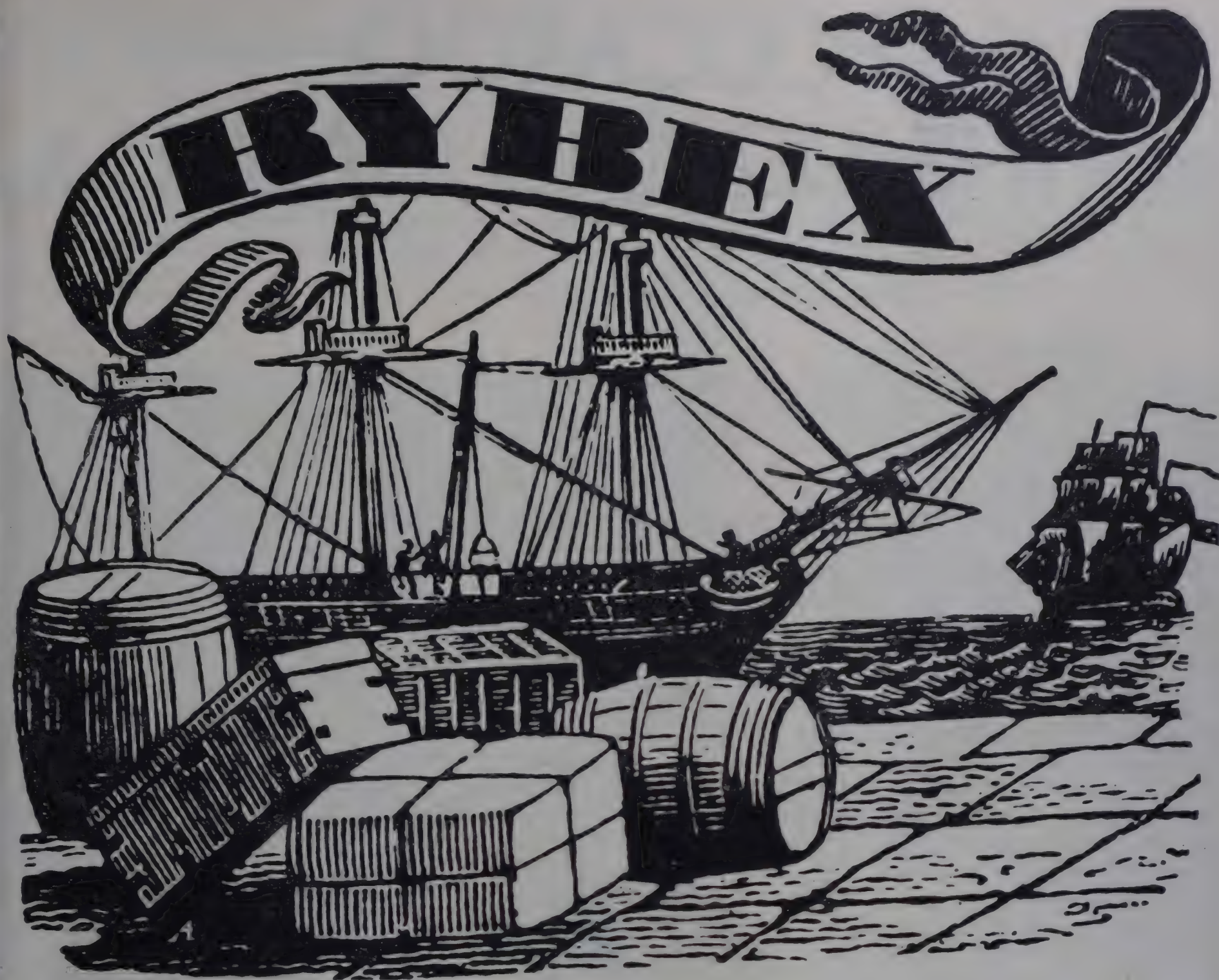
Just as soon as the next batch of raw material arrives, the representative of the plant laboratory, participating in the acceptance committee, composed of several persons, immediately turns his attention

to quality. For example, beets destined for marinating pass through a preliminary sorting, are parboiled at a temperature of 110°C for 15 minutes in an autoclave, peeled, washed and sorted for size. Each operation is joined with a check-up, in order to select beets for marinates that are firm and small, at most 40 cm in diameter, for such are the most in demand. The next operation is to put the beets by hand into the jars. The next quality control takes place before the pickle is added. The beets pass through a new check up after pasteurization, then the product will be once more controlled in the store-room before the entire batch intended for export is presented to the state inspector of Standardization Institute for his approval. We examine one of the records of the Standardization Institute Inspector, Czeslaw Gajda, concerning blackberry compote. "126 items in 0.45 l and 0.37 l jars were presented for control 65 items were examined. The commodity is in general of good quality. The berries are whole, sound, ripe and clean. The consistency of the berries is good, without excessive wrinkles. Taste and smell very good characteristic for blackberry compotes. Decision: commodity permitted for export in Class I." Such decisions are repeated with consecutive deliveries of Krosno commodities. Commodities only of good quality can pass through such a dense sieve. "Polcoop" professionals know about this, and on their part they see to it that the Krosno factories keep pace with the growing requirements of customers. "Polcoop" supplies the factories with labels and such packaging as foreign merchants order, i. e. Euroglas jars and bowls made of golden aluminum foil in which jams and compotes will be packed after special welders are installed with the help of "Polcoop". The chief director Andrzej Nastala and the Technical director Wacław Naumczyk think that precisely to the cooperation with Polcoop the factories owe the sale of one fifth of their products to foreign countries.

*Janusz Trzcianka*

# Polcoop





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**RYBEX** exports: • sea-water fish • fresh-water fish • canned fish

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**Foreign Trade Office**

**Szczecin, Odrowąza 1, Poland**

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# FOOD

## *from Poland*

Review of Exports of Agricultural Products and Foodstuffs

No 4(48)





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# POLAND'S COMMERCIAL EXCHANGE IN

## Our Cover

"The Sultana's Breakfast" — a tapestry according to a cartoon of a French painter, Ammadée van Loo of 1773, made in 1773—1791 at the Royal Tapestry Factory at the atelier of Jean Audman of Paris.

Dimensions: Height 397 cm, width 512 cm.

The tapestry presents the sultana, sitting in the center on an edge of the terrace, surrounded by maids serving breakfast. The predominating colours: dark brown and green and pastel, blue, violet and yellow.

The tapestry was acquired for the collection of the Museum of Artistic Crafts in Wrocław in 1946. At present it is at the National Museum of Warsaw



# 1971 1975

**The Polish economic plan for the years 1971—1975 provides for a marked livening up of international goods turnovers.**

**In concord with the tasks set during that period a modernization of the entire economy is foreseen and this is connected with big capital expenditure. A large part of the investments Poland will purchase abroad. Also in the line of industrial consumer articles Poland's foreign trade will be faced with important tasks as a result of an increase in the buying power and the foreseen demand on the part of Poland's public.**



The present 1971—1975 five-year plan has been already partly carried out. Incidentally the indices attained in 1971 — the first year of the plan — are higher than those assumed. This is an excellent start for the carrying out of the further tasks of the plan.

What are the ratios of the tasks in the 1971—1975 plan? According to the assumptions of the present economic plan industrial production will attain an increase of about 50.2 per cent, of this the production of means of production — the so-called group "A" — is to increase by 51.2 per cent and the production of consumer goods — so-called group "B" — will rise by 48.4 per cent. As seen from the presented data the span between the rate of increase of the production of means of production and the production of consumer goods will be reduced to only three points when in the years 1966—1970 it amounted to 18 points. A quicker rate of increase of the production of consumer goods means, primarily, an increase of agricultural production. It is worth noting here that during the first months of 1972 favourable changes occurred in the state's policy both in respect of agriculture and of industry.

Governmental decisions concerning agriculture have activated production reserves existing in this branch of economy. A proof of this are the results attained in 1971. All the more so one must consider as an optimistic prognosis the further decisions taken in 1972. The abolition of compulsory deliveries of corn, potatoes, slaughter animals, the reduction of progression in liabilities, reduced rates for farms with poorer soils, the raising of the prices of animal products, namely a marked raising of the profitability of production as well as an increase in the supply of means of production to the country and investment outlays have brought about increased production activity of farmers and it is to be expected that they will bear even a greater influence in the years to come.

As already mentioned during the years 1971—1975 there will occur a considerable rise in the incomes of the population. On the basis of initial estimates this increase will amount to more than 254,000 million zlotys. According to estimates of this sum the people will allocate 165,000 million zlotys for the purchase of goods on the market. To complete the picture of the requirements may we add that in comparison with the previous five-year plan outlays for investments will increase by 45 per cent. This means a sum of 1,454,000 zlotys. Thus the requirements of the home market will be very great and Poland's foreign trade will have

to make a tremendous effort to increase imports of investment goods and of goods for direct consumption. In accordance with the plan the rise in foreign turnovers during that period will amount to almost 57 per cent, of which imports will increase by about 50 per cent. During the years 1971—1975 imports of consumer articles will grow when compared with 1970 — by 76 per cent and imports of machines and equipment in the current five-year plan will be twice larger than in the 1966—1970 plan.

During the years 1966—1970 agricultural products and food articles were the least dynamic group in Poland's foreign trade. During that period exports within this group of goods showed a stagnation which caused that the share of this group in total exports dropped from 19.5 per cent in 1965 to 14.4 per cent in 1970. The change which has occurred since almost two years in the economic policy and especially in the agricultural domain has changed radically the situation in the production and exports of food products. But this situation, though considerably more favourable — as a result of the introduction of new economic conditions for agricultural production — and the effects obtained already in 1971 could not, however, influence exports of these articles, in the first year of the present five-year economic plan. To the contrary the livening up noted on Poland's home market demanded not only a reduction in exports of agricultural products and food articles to a level below that in 1970 but also necessitated imports of some foodstuffs. The fact of the livening up of the home market connected with the increase in the incomes of the population, which was followed by a rise in consumption, caused in 1971 a percentage increase in imports of agricultural products and food articles amounting to 37 per cent. The here described situation concerning 1971 has, however, no influence upon the further development of these exports in the years 1972—1975. We have mentioned earlier the favourable changes which have occurred in Poland's agriculture and processing industry. The dynamic rise being noted in 1972 in the contract purchases agricultural products, pigs and cattle prove unfailing that there has occurred a further development and expansion of the basis for export of food products. It may be, therefore, accepted that exports in this group will constantly increase. Next one should state that exports in this group will be directed mainly to economically developed Western countries. These traditional exports, which because of their high quality and natural conditions of pro-



duction are appreciated, will continue. Data for the past year confirm that highly developed countries, which for scores of years have traditionally imported food from Poland, continue to show great interest in the purchase of these commodities. Despite the general downward tendency of this group in Poland's total exports, it is noteworthy that to highly industrialized countries exports of agricultural products and food articles were the most dynamic.

During the years 1966—1970, 83 per cent of agricultural products and food articles were exported to highly industrialized Western countries. The main share in these exports fell to such countries as Great Britain, the Federal Republic of Germany, Italy, France and the United States. The accession of four countries, of which Great Britain is one, to the European Common Market has called for a change in the structure of our export both from the point of view of the assortment of goods as well as in the geographical direction of sales. We, however, hope that Great Britain will create the necessary conditions so as to remain one of the important buyers of Polish agricultural products and food articles.

Poland's economic plan for 1971—1975 foresees that in comparison with 1970 exports of agricultural products and food articles will be about 30 per cent higher. In the group of animal products a further rise will occur in exports of utility cattle, meat, primarily beef and meat products. Also exports of pig products such as ham, pork-butcher's products and ready-to-serve portions will increase. At favourable weather conditions exports also of vegetable products will increase. Upward trends will be shown by such export items as game, forest fruits, alcoholic products as well as fruit-and-vegetable products, frozen products and tobacco.

The presented in outline task of Poland's foreign trade for the years 1972—1975 will contribute to the boosting of the economy and the increase of Poland's share in the international division of work. The carrying out of the aims, the task of which is a considerable livening up of Poland's foreign trade relations, will be conditioned, however, by the removal of all barriers hindering the turnovers of goods — all the more so since for several years Poland is a member of GATT. In the realization of Poland's import plans those countries will play a part which will show a proper attitude towards the Polish export offer. We also hope that Poland's import requirements will be of interest to businessmen abroad and this should result in an increase in commercial turnovers.

# Up-to-date Food Testing Methods in



## Laboratories

*Henryk Jęsiak*

The methods of testing food subject to international turnover have undergone rapid changes. These have been brought about by both the development of analytical chemistry, by an ever increasing number of food stuffs and products being covered by standardizing prescriptions and by the growing demands on the part of food importers as to their quality requirements.



**T**hese requirements are also closely connected with the application of chemicals in agriculture and the more rigid sanitary criteria that follow suit respecting the food products being imported.

Besides measures to curtail imports characterized by the so-called "technical barriers" resorted to with the view of protecting a country's own production and its internal markets against imports of food from outside — also have some influence. This is why countries exporting food products take care to ensure higher and higher quality of their products which are subjected to strict technological rigours and official chemical and bacteriological or sanitary-epidemiological testing.

However, in spite of this, foreign receivers used to insert clauses in their contracts providing for a possibility to check the quality of the imported food through the intermediary of independent quality assessment and superintending companies, being in a position to safeguard the interests of their principals and such that are generally recognized in international trade.

International Superintendence and Testing Services — POLCARGO, Gdynia — has been entrusted by quite a number of foreign firms with the inspection of the exported food products as to their quality both as regards the ones of vegetable origin and those of animal origin. The following well known firms can be considered the permanent and major principals of POLCARGO: De Betuwe, Tiel, Holland (fruit pulps), EVA, Paris (fruit pulps), OY Alko AB, Helsinki, Finland (molasses), Benito and Benito, Lisbona, Portugal (potatoes), Cevema, Rotterdam, Holland (meat, pluck), J.A. Goldschmidt, Paris, France (grain, sugar, etc), Giovanelli, Frauenfeld, Switzerland (fruit, vegetables), Internationales Federnbureau, Frankfurt/M, the Federal Republic of Germany (feathers), Topiol Frères, Paris, France (feathers), Nieuwe Vlees Combinatie, Rotterdam, Holland (meat), A. Maksel, Buchloeh, F.R.G. (meat), Schlüter and Maack, Hamburg, F.R.G. (molasses), E. Kampffmeyer, Western Berlin (potato-starch).

Apart from the firms mentioned here — orders are still coming in from other receivers from such countries as Austria, Argentina, Brazil, Burma, Ceylon, Czechoslovakia, France, the German Democratic Republic and the Federal

Republic of Germany, Great Britain, Greece, Holland, India, Italy, Japan, Morocco, Romania, Sweden, Switzerland, the U.S.A., the U.S.S.R., Yugoslavia.

POLCARGO has won the confidence of respectable foreign receivers thanks to the development, in the course of recent years, in particular of its quality inspection premises and laboratories which practically cover by its up-to-date testing all the food-stuffs and products.

The most up-to-date food testing methods — rapid, precise and in accordance with the requirements of the Polish and international standards as well as rules, such as — the American Standard's Testing Materials (ASTM), Official and Tentative Methods of the American Oil Chemists Society (A.O.C.S.), Official Methods of Analysis of the Association of Official Analytical Chemists (A.O.A.C.), Cereal Laboratory. Methods of the American Association of Cereal Chemists, Méthodes Internationales d'Analyses des Vins (O.I.V., Paris), Fertilizers and Feeding Stuffs Regulations, British Standards' Specification (B.S.S.), GOST, TGL, DGF — Einheitsmethoden, Polskie Normy — Wymagania Eksportowe (Polish Standards — Export Requirements) — are mainly applicable in the Central Chemical Laboratory of POLCARGO, Gdynia.

Apart from the sensory analysis, applied there for years, and based on scientific methods and the standards in use (i.e. Polish Standards: PN-66 A-04020 Sensory Analysis, the General Principles, as well as, PN-65 (A-04021) and PN-64 (A-04022 resp. the methods of checking the sensory susceptibility and preparation of evaluation patterns) and the classical chemical and physico-chemical analysis method, it is possible for this laboratory to apply widely up-to-date instrumental methods of testing food. Even the preparation of samples for analytical purposes is done mechanically which is strictly as per the regulations in use respecting each kind of food-stuffs and products.

To crush and make the tested substance uniform applied are various, highly efficient crushers, grinders, mills, homogenizers, and the like equipment, which are all adapted to the specific properties of the resp. product. Satisfactory preparation of the tested sample constitutes the principal ele-

ment influencing adequate carrying out of every laboratory analysis.

The content of the basic components in the food products, as for instance, protein, fat, sugars, water, etc. is tested while applying both thoroughly checked and standardized classical methods according to the regulations in use viz.: determination of nitrogen (protein) — as by Kjeldahl's method, fat contents as by Soxhlet's extraction method — while applying flow and flooding sets of Butt type, sugar content as by Lane — Eynon, Luf — Schoorl, etc., as well as, by instrumental, physical and physico-chemical methods.

Microscopy (in polarized and passing light), spectrography (i.e. examination of the kind of crystalline sediments in wine), refractometry (refraction index, content of sugar) and polarimetry (content of sugar) are readily availed of while examining of many products.

Likewise pH-metry, colorimetry and photolorimetry are used when carrying out analyses supplementing the qualitative characteristics of the tested food.

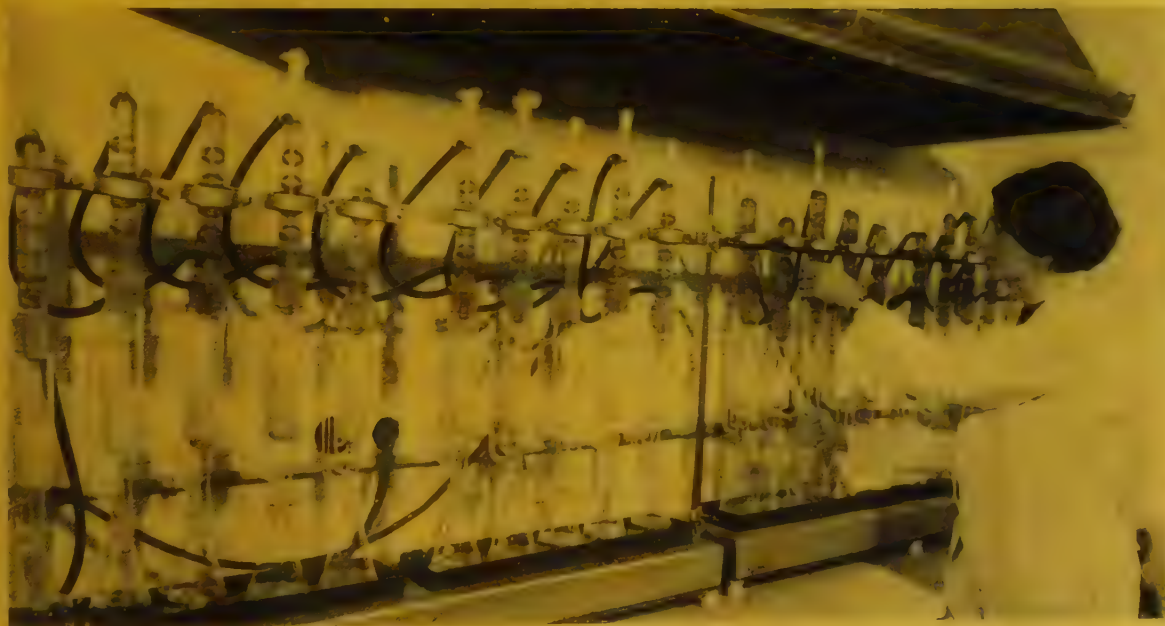
Rigorous regulations concerning food in various countries, as well as, the specific character of many products require often a more intense examination resp. some parameters. Thus, for instance, to detect and identify synthetic dye-stuffs in fruit juices as per the A.O.A.C. methodology, spectrophotometric analysis in infra-red light is applied.

Thin-layer chromatography has appeared to have been helpful in determining for instance: the presence and content of preserving substances added to food such as: hexadienoic acid, benzoates, etc., or even antioxidants. By means of thin-layer chromatography POLCARGO Laboratory has also discovered aflatoxins in oil seeds, concentrated feeding stuffs (oil-cakes, extractions etc).

Relatively abundant in this respect have been data the Laboratory of the Company submitted to specialistic publications in a number of reports (for instance: "Determination of Aflatoxins in Groundnuts and Oil-cakes" — by T. Sobolewski and S. Kmiecik — *Przemysł Spożywczy* 1969, vol. XXII, copy 4, page 155).

Rapeseed, rapeseed expellers, rapeseed oil and fatty acids — exported by Poland — are subject to careful analysis according to requirements of





foreign receivers based on the regulations in use in the importing countries. Apart from the so-called characteristic constant fat numbers resp. this group of goods (saponifying, iodine, free fatty acids, etc.) one determines, for instance, the contents of erucic acid which is peculiar for rapeseed and rapeseed oil. Analysis is carried out by application of gas chromatography. Likewise the content of other fatty acids in raw foods or products is determined by application of this up-to-date analytical method.

Quite a number of regulations concerning the import of fish preserves, wine, meat preserves and other tinned goods provide for examination of metal traces. This concerns — as it is well known — for instance, the presence of iron, arsenic, lead, zinc, tin, and copper. In the laboratories mainly carrying out most of these determinations absorption spectrophotometry appeared to have been of utmost value. The SP 90 A atomic absorption spectrophotometer-made by the British firm UNICAM — well serves the purposes in the POLCARGO Laboratory.

Application of up-to-date, rapid and precise analytical methods is facilitated by continual personal contacts with the domestic and foreign scientific and research institutes, as well as, with laboratories similar to the ones like POLCARGO, such as SALAMON and SEABER, London or dr Verwey, Rotterdam.

The exchange of analyses results arrived at by institutes and laboratories renders it possible to assess one's own methods, to initiate new ones and to attain further progress in the way of effecting the analyses.

Any foreign receiver can acquire from POLCARGO certificates concerning chemical and physico-chemical analyses along with precise sensory analysis concerning the required qualitative parameters for raw food as well as its semiproducs and products of vegetable and animal origin (grain, oil seeds, oil, concentrated feeding stuffs, sugar, fruit, vegetables, dried fruit, wine and alcoholic drinks, meat and meat preserves, fish and fish preserves, eggs, dairy products, etc).

**In this way — thanks to the analyses of POLCARGO — foreign importers are in a position to obtain full quality characteristics of the goods and can be assured that these are strictly according to their expectations.**



## **POLCARGO — Experts of Downs and Feathers**

POLCARGO is the only Superintending Company in Europe that possesses its own up-to-date Laboratory designed for inspection and testing of feathers. The Laboratory, located in Kraków, specializes in carrying out:

### **Macroscopic Analyses of Feathers**

— ascertaining the percentage of various components in samples submitted for testing.

### **Microscopic Analyses of Feathers**

— determining the percentage of duck down in goose down in samples, as well as, possible admixture of artificial fibre.

# **POL CAR GO**



Following client's request, samples for laboratory testing may be drawn by specialists of POLCARGO in strict accordance with the requirements of the order. Coded samples of feathers may be sent by customers direct to the address:

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**KRAKÓW**  
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**Telex: 032458**  
**Phone: 203-69**  
**539-88 and 579-12**  
**Cables: POLCARGO, KRAKÓW**

**On completion of each testing POLCARGO issues**

**A CERTIFICATE OF ANALYSIS.** These Certificates are recognized by all the most important world-known firms dealing in feathers and thus serve as a basis for:

- confrontation of the actual quality of the goods with the provisions of the contract concerned,
- approving the offered parcels of feathers,
- lodging quality claims,
- mutual settling of accounts between the parties involved.

**Prompt execution of  
orders and moderate  
rates of charges**



## Difficulties in International Turnovers Must be Removed and not Multiplied

**Exporters of food, especially in recent years, must overcome ever more numerous technical barriers on the international market. These, unencountered a few years ago, recently have cropped up with increased sharpness. The problem is that the relevant legislation is different in each country and the regulations enforcing these laws complicate them even more.**

**The establishment by some countries of excessively precise quality standards—of different for individual countries — methods of testing the quality of products, create for exporters of consumer goods additional difficulties on the international market.**

Sanitary and wholesomeness regulations issued in individual countries are to serve the interests of the consumer. Their aim is to safeguard his health against the side-effects of technical progress, and primarily of the chemization of food production. They are, therefore, undoubtedly very necessary and pertinent. But, on the other hand, under their cover difficulties are multiplying.

Often it so happens that a product which rouses no doubts as to its wholesomeness in one country, is not permitted to be sold in another country. Regulations establishing the permissible residue of pesticides in food products and regulations limiting the quantity and quality of additions in food production, such as preserving agents, dye-stuffs, bleaching agents, anti-deoxidants, aromatizing agents and other substances may serve, as a characteristic examples. It is a generally known fact that the aim of using appropriate quantities of chemical additions is to deliver to the consumer a product which can be stored longer and is less affected by transportation. This is necessary with the modern methods of production, packing and transport. At a time of expanding commercial exchange and a widening range of international turnovers, we are able to widen our assortment of food products while taking into consideration different climatic conditions.

Too detailed standardization in individual countries is another technical impediment in international turnovers of food products. Some countries, in their strive to raise the standard of their own production, set very precise quality requirements linked with strict instruction on control and regulations concerning the packing and marking of goods. As a result this leads to the fact that a good quality product, suitable for sale in one country, cannot cross the frontier of another country. Such an excessive interference in production conditions is unfavourable both from the point of view of the exporter and of the importer. Disadvantageous for the exporter because it enforces him to adapt to the requirements of the buyer — may we add often to the detriment of consumers in the buyer's country. On

the other hand, where the importer is concerned, this may cut him off from the source of a good purchase, or force him to pay more for the preparation of the article in an untypical way.

For some exporters of animal products, the necessity of adapting the processing plants and applied technologies to the highly detailed requirements of buyers abroad create a considerable difficulty. If meat or meat products, poultry or egg products are not processed in processing plants with a standard of technique and hygiene accepted by the importer, then, even if the quality of these products is faultless, they will not receive an import licence by the sanitary or other control authorities. The barriers cited here and others not mentioned, which are constantly increasing, do not facilitate the growth of foreign turnovers. It is in the interest of both importers and exporters to remove and not multiply difficulties. These difficulties can be and should be liquidated by means of international agreements.

We have examples of the elimination of such discrepancies. An agreement signed in Geneva in 1962 and constantly related to current interests concerning international regulations on transportation of perishable food products may serve as an example. It is however, true that it is more difficult to reach such an agreement on an international scale when the interests of the medical service of countries are at odds with the interests of production and commerce. After all, no impossible demands are made.

The problem is to define minimum quality and wholesomeness standards of individual products and to agree upon the basic sanitary conditions of production and distribution of food. These are matters in which several international organization, and groups, of which Poland is an active member, are engaged.

Thus, difficulties in international turnovers of food must be removed and not multiplied. This is a matter in which both exporters and importers of food are interested.



# Modernization and Expansion of Poland's Food Industry

The assumed increase of agriculture up to 1975 creates favourable conditions for the food industry producing foodstuffs for the home market and export. The growing raw material base calls for new and increased production capacities for the processing of agricultural raw materials into highly processed, tasty, aesthetic and appropriately packed food articles.

That is why it is planned that up to the year 1975 Poland's food industry will be dynamically modernized and expanded, and to this end substantial funds have been earmarked for investments. For the entire food industry branch the planned investment outlays for the years 1972—1972 are to increase by 52 per cent in comparison with the outlays in the years 1966—1971.

Considerable funds — amounting to 2,500 million zlotys — have been allocated for the purchase of machines and equipment.

Large imports of up-to-date machines and equipment from highly developed countries manufacturing machines for the food industry are being planned.

From the sums planned for investment in the food industry the largest funds are earmarked for the development and modernization of the meat industry. The aim is to improve considerably the slaughter and processing capacity, especially in the production of pork butcher's products and of canned ham and meat preserves, the gross of which will increase the export quota of this important line of traditional and renowned exports, especially on the markets of Western Europe and of the Union States. It is also noteworthy that the plans provide for a marked development of the production base of swine. It should be emphasized also that with the aim of intensifying and

speeding up of the building of meat processing plants, the construction of two large meat processing plants fitted out with imported equipment is foreseen. These plants are to be built during the years 1972—1973.

One may, therefore, express the opinion that hitherto the expansion and modernization of the meat processing industry has been so quick and that never before have such large investment outlays been allotted. With the development and modernization of the meat processing industry is linked a further dynamic expansion of technological and storage refrigeration. Up to 1975, eleven cold stores of large storage capacity of food articles will be constructed. Independently of the building of new cold stores, many cold stores will be modernized. As a result of this a further increase of the cold storage area will increase. There will also occur an increase in the production capacity in the line of frozen fruit and vegetables, frozen ready-to-serve dishes and the production of ice-creams on an industrial scale.

The realization of the programme of the development of refrigeration engineering, will create for the entire food industry proper conditions putting to advantage this important domain of the food industry, and will create conditions for the production of food articles of improved quality for the home market and for export.

It is worth mentioning that already in 1971 one — storeyed cold store has been handed over for exploitation, and that in 1972 as many as three vast, modernly fitted out, one — storeyed cold stores will be put into operation. For comparison it may be said that even though there was an increase in the production of cold sto-

rage in the previous two five-year periods then as now, during which — in principle, sixteen cold stores were handed over for exploitation respectively, now during the years 1971—1975 the storage capacity will increase at least 2.5 times more in comparison with the previous two five-year periods. In order to carry out the investment programme, the purchase of two cold stores to be handed over for exploitation at the end of 1973 is foreseen.

Considerable funds for investments are foreseen for the development and modernization of the egg- and poultry- industry, which will markedly increase the production capacity of this industry, which is producing ever more poultry and poultry products primarily for the home market.

Large investment outlays are planned for the expansion and modernization of the cooperative dairy industry. As a result of this will be built: 38 dairies and 21 will be expanded; 17 hard and spreadcheese production plants and departments with an annual capacity of 37,000 tons of that product. Considerable funds for investment have also been allotted for the production potential of industries producing vegetable food articles. First of all, a large, modern, sugar factory will be built at Łapy in the voivodship of Białystok and six sugar factories will be modernized. This will permit an increase in the processing capacity of the sugar industry, shorten the sugar campaign, which will bear undoubtedly, an influence on the increase of sugar production and will — primarily — reduce its costs.

In other industries such as, for example, the grain and milling industry, in addition to a rise in the milling capacity, an increase of the storage capacity by 1.3 mil-

lion tons will occur. This will markedly reduce the lack of storage facilities during peak periods.

In the brewery industry investment outlays are primarily directed to the building of malt-houses and breweries, and to the production of Coca-Cola and Pepsi-Cola made under licence.

May we add that considerable investment funds are being allotted for the construction and modernization of fodder production plants, utilization plants, and for the modernization of gelatine factories.

The remaining branches of the food industry, such as, for example, the oil-extracting industry, alcohol industry, herb industry, and food concentrates industry, will also be expanded and modernized, thanks to the installation of up-to-date Polish-made and imported machines and equipment.

The realization of these undertakings up to the year 1975 will ensure an increase in the production and service capacity in enterprises of the State food industry in comparison with the previous five-year period.

Such a high rise in the value of production during the years 1971—1975 will improve the supply of food articles for the population's growing demands. As well as of highly processed, aesthetically packed and adepted to the increased requirements of foreign buyers food-stuffs for export.

Lastly, one should emphasize the Polish scientific and research centres and institutes of the food industry, which will introduce into production — on the basis of their own research and foreign experiences — new technologies, which will improve the quality and tastiness of Polish food articles on the home market and for export.



# Opinions of Consignees Abroad on Polish Food Products

The Editors of "Food from Poland" have asked the most competent persons, representatives of renowned import-export firms abroad, to express their opinion on vegetable and animal products bought from Poland. The Editors wish to present these opinions to the Readers of "Food from Poland" so that they may know what buyers and importers think of our food products. In this issue of our periodical we have published the first interview which was granted to us by Herr A. Aichhorn of the firm of Export- und Importgesellschaft of Vienna. We have entitled the interview:

VERY WELL  
KNOWN  
AND  
HIGHLY VALUED...



**1. How does the consumer in your country receive and assess Polish food products?**

— In general Polish food products are very well known and highly

valued in Austria. However, because the majority of deliveries from Poland are destined for further processing, the population does not often realize when it is consuming Polish food.

**2. As an expert in this branch, what can you say about the goods delivered to the market of the country of your activities?**

— I can confirm that I receive from processing plants — both handicraft and industrial ones, many questions concerning oxen, calves and pigs. It is well known that breeding of these animals in Poland is such that their ready products entering Austria are truly of the best quality. Thus when looking over statistics of imports to Austria it will be found that, for example, Polish veal dominates this market. Figures indicate that large quantities of products are imported to Poland. In 1971 47,717 calves, more than 20 million eggs and 33,703 kg of roast lights were imported from Poland to Austria. There is also a constant demand for Polish poultry — this, however, cannot be fully satisfied.

Moreover, fish preserves and frozen fish are very welcome.

**3. Are there any difficulties in sales of Polish food products in your country? If there are difficulties, what are they and why? If there are no difficulties, why is that so?**

— As a rule there are no difficulties in sales of Polish food in Austria. On the contrary, Austrians would consume much more Polish food if Poland would put at our disposal the necessary deliveries. Recently one can notice strong competition on the part of home and foreign suppliers of eggs. Since customers are in the habit of buying eggs where they also buy poultry, there exists the possibility of increasing sales of eggs if Poland were able to supply poultry.

**4. What prospects of development of exports of food articles from Poland do you see — are there possibilities of increasing these exports?**

— In my opinion, a further development depends, to a much smaller degree, on Austria than on the

possibilities of deliveries from Poland.

**5. What is your assessment of the advertising of Polish food products on your market? Do you see any need for boosting advertising — in what forms and scope?**

— Polish advertising in all respects should be positively assessed because Polish graphic art is famous throughout Europe. To further consolidate the picture of Poland and Polish products it would be advisable to boost press advertising. Here I have in mind more professional periodicals than the press which is read by Austrian consumers.

**6. Do you, in your own capacity, organize some forms of advertisement of food articles from Poland?**

— We endeavour, in our own capacity, to advertise Polish food by means of advertisements in the professional press, tasting sessions and participation in important Austrian fairs (Vienna, Graz, Innsbruck, Dornbirn, Wels, Ried.)

Interview by J. Korzeniowski



# polycor





# In the homeland of the blue poppy



In the vicinity of Poznań, the Polish town famous for its annual international trade fair, lie regions with old and rich agricultural traditions. This part of the country constitutes the main production base of the unrivalled poppy, which under the name of the "Polish Blue Poppy Seed" is gaining popularity on many world markets. The sole exporter of this poppy is the Cooperative Foreign Trade Enterprise POLCOOP, known also, among other, as the only supplier in Poland of consumption seed: charlock, peas, beans, etc.

*Janusz Trzcianka*





# In the homeland of the blue poppy

The best among the best varieties of the Polish poppy was bred a dozen or so years ago by professor Dr. Konstanty Moldenhauer, at that time a lecturer at the Poznań Agricultural University, and an outstanding world class specialist in the field of cross-fertilization. The experimental station directed by him, in close and continuous contact with local planters, has selected after a number of seasons, a variety distinguished by its beautifully intensive uniform blue colour, and its exceptionally sweet taste. The new variety received the name "KM", from the initials of professor Moldenhauer. This variety is given for sowing to the best individual planters who are in close collaboration with the experimental station. The agrotechnical methods applied by them are well established: abundant feeding of soil with manure, then cultivation of sugar beet or potatoes, after gathering of the crops and deep ploughing the soil designated for sowing of poppy is given a special mixture of mineral fertilizers.

The collected seed is used as sowing seed. All farmers buy them from planters selected by the experimental station. Usually the best acreage is earmarked for growing poppy, where the crops even reach 2,000 kg per hectare. The most important factor for the growth of this plant is maximum insolation. To obtain the maximum amount of sun radiation poppy is sown at suitable spacing, in rows running from east to west. The young shoots must be singled by hand, as the use of any type of machines could be outright harmful for the crops.

The crops begin to ripen in the middle of August and continue for some time, in a selective way. The sweetest poppy, the one with the most beautiful colour, the poppy which was the first to ripen, which has grown the highest and got most of the sun will be earmarked for export and it has to be gathered first. Treshing is done by farmers who also store the seed for some time. In order to effectively protect the taste and colour, the poppy seed must be stored in thin, maximum 20 cm high piles; it must be frequently sifted in order to prevent overheating and acquiring bitter taste.

Later, this excellent poppy seed, with its unchanged original taste and flavour is brought by the farmer to the purchasing station of the local cooperative in the town of Buk.

The farmers receive for their delivery a good price, guaranteed by a special contracting agreement signed in the spring. The guarantee of a predetermined profit, independent of fluctuations in crops, represents an additional stimulus for the cultivation of poppy. Mr. Władysław Markwitz, a specialist, who has had experience in several West European countries, is responsible in the Buk cooperative for the poppy seed. He estimates that over a thousand tons of poppy seed is exported every year only from the Buk region, mostly to Austria, the German Federal Republic, Great Britain, the Scandinavian countries, and to America. In order to cope with such an extensive turnover, the cooperative has built a four-storeyed concrete building for the storage and the cleaning of poppy seed; Mr. Markwitz is the manager of this building, which has been equipped with fifteen high-output winnowing machines of German

production — "Petkus". Their capacity was found insufficient, however, and four new additional machines have been imported. The new machines — "Oliver Gravity Separators" — were manufactured in the U.S.A. by Oliver FG Co. Inc., Rocky Ford, Colorado. Our highest quality poppy seed is exported to the U.S.A. The Buk cooperative concluded, also, a direct compensation deal with the West German firm of Kiefferr from Hamburg, which has supplied a drying plant having an output of 80 tons a day, in return for a guarantee of five years' deliveries of seeds required by this firm.

The mechanical drying plant, using two quickly rotating belts, with hot air, dries chestnuts, peas, beans, charlock or poppy seed, depending on requirements; thus, reducing the moisture content of consumption seeds at least to the degree guaranteed by export standards. The laboratory, supervised by Stanisława Stróżyk, is equipped with the most advanced apparatus, among which are supersensitive scales and small driers assuring a temperature of 130°C. All lots of seeds are inspected in this laboratory very thoroughly twice — the first time after delivery, the second time before shipping. The first inspection permits us to determine which lot purchased from the planters will require more intensive cleaning, and how to program the drying process in order to meet the export requirements. The laboratory also attests the seeds after all the cleaning and storage operations have been carried out under the most suitable conditions, guaranteeing that the importer will receive the product of the highest quality. Thanks to its beautiful uniform colour and unrivalled taste the poppy seed from Poland is indispensable in the baker's and confectionary trade and in the catering business; it is also a favourite with the housewives, as it is the sweetest of its kind on the foreign markets. Attention is also deserved by its pleasant natural aroma, as the composition of aromatic substances characteristic for poppy seed is most advantageous in the Polish blue poppy seed.

The Polish exporter guarantees 99 per cent purity of the supplied poppy seed; the moisture content does not exceed 12°, which meets the world's highest requirements in this field. The same applies also to consumption seeds of charlock, peas or beans, gathered in Poland and exported by POLCOOP. In the case of poppy seed, the Polish exporter can also guarantee the absence of mites. The cleaning plant at Buk, handling seeds earmarked for export, is also equipped with a vacuum chamber with a capacity of 9 tons through which has to pass — in order to kill all living parasitical organisms — all the seeds on the way to and from the laboratory. The results of the vacuum treatment are carefully examined on suitably lighted black panel before being issued the export certificate. Thanks to the important work carried out by a dozen or so workers, assisted by modern equipment of the Buk cleaning plant, POLCOOP, which has been specializing for years in the export of consumption seeds, is continuously strengthening its position on foreign markets, and gaining the opinion of a supplier whose shipments do not require laboratory acceptance tests, as there is not the slightest doubt that they meet the highest world standards.



# Excellent Product from a Small Pork- -Butcher's Shop

It is a well known fact that for many years Poland, has been, and, is among Europe's leading suppliers of meat products. Specialized Polish farms, engaged in raising pigs and breeding cattle, apply their own, well tested, feeding standards, and that breeding is carried on under natural conditions. This ensures a proper meat-fat ratio and, primarily, an original, delicious flavour of the meat. It is worth adding here, that natural breeding conditions in Poland are linked with

a careful veterinary supervision which embraces, obviously, slaughter houses (where the entire slaughter process is carried out under ideal sanitary conditions) and processing plants, in which the most wholesome meat is earmarked for the production of preserves.

There are in Poland smaller processing plants specialized in exports and in the production of special kinds of preserves.

We visited one such plant at Bydgoszcz and asked its director, Mr. Witold Nogalski for an interview. Question: The readers of "Food from Poland" already know that in meat processing plants and in the production of preserves Poland employs employees with great professional skill. In the food industry this branch calls for experience of long standing.

**— Mr. Director how has your factory, which belongs to a group of small processing plants, obtained a crew of specialists?**

— We are a co-operative factory and are members of one of the co-operatives of the Bydgoszcz Voivodship. This has facilitated in the selection of a staff of experts, who previously had worked in other co-ops. To be able to assume the management of this factory I had to serve a full pork butcher's apprenticeship, starting as an apprentice and then as a journeyman and luter. I worked at various jobs in large meat processing plants.

Obviously my education is technical. We demand similar professional qualifications of our master workers and our workers learn from them during their daily work. I think that the many specialistic courses, conducted in our plant by experienced pork butcher's masters, are also an indication of the solicitude for the standard of our production. Great care for hygiene embraces the entire production process: salubrity checks of the raw material and finished product are carried out, as well as, a set of laboratory tests which not only serve to raise the quality of our products but also to introduce various unique in flavour recipes.

**Question: Mr. Director, to which of these products would you give first place?**

— I am on the horns of a dilemma. In the opinion of all our customers and of the exporter of our products, POLCOOP Foreign Trade Enterprise, a preserve with which but few butcher's shop products may compete is our Boneless Pork Shank.

For production of this product we select in the nearby vast slaughter house the best pork meat which is additionally specially prepared in our plant. Our laboratory carefully examines the content of the pickling agents used for this preserve. An excess of them could cause a change in the colour of the meat after opening the tin. Our pork shank does not change its fine colour. We have introduced our own original technological method: anaerobic pickling in closed tins. This not only ensures hundred per cent hygiene, but also prolongs the shelf life of the preserve considerably beyond the six months guarantee period, but also ensures an unchanged flavour.

Our pork shank production is not large: on an average several hundred tins per day. Thus, it is possible to see to the highest standard of literally every preserve.

The meat, from which excess fat has been removed, is wrapped by hand in its undamaged skin. This also adds flavour to the pork shank. The thusly prepared product is then ready for preservation (by the sterilization method).

Boneless pork shank, apart from this guaranteed product, does not contain any other additions with the exception of a small amount of spices and a minute amount of gelatine necessary for filling in the recesses in the tin.

In addition to boneless pork shank, our plant manufactures other unique preserves such as, for example, poultry, pâté de foie. As the name indicates this preserve is made mainly from the meat of poultry. Tender poultry meat is necessary for the pâté's quality. The proper admixtures for pâté, such as grease, liver (not machine morselled but specially pulverized), veal, beef and pork from the best quality raw material, are only used in the pâté in such



proportions which guarantee its unique flavour.

Old-fashioned, well tested, cooking recipes recommend to seasoning the pâté moderately with pepper and salt and then to add a small amount of spring onions and marjoram. Thus, a specific and unique aroma is ensured. We have based our production on just such traditional recipes.

We pulverize the liver to make it easily digestible. Also goose meat in pâté is not heavy. We have excluded all ersatzes and substitutes. That is why our poultry pâté de foie has become our original product, which is as wholesome just as if it had been made at home by the best of housewives. It is universally considered as irreplaceable in the preparation of tasty sandwiches, snacks and hors d'oeuvres both in restaurants and for parties at home. A comparatively long shelf life of the product, easy storage and small practical packing (85 g or 190 g tins) make our poultry pâté de foie appropriate for inclusion in food provisions for a weekend or an excursion.

For a long time now this product is being shipped by POLCOOP to the United States, Great Britain, Canada, the Federal Republic of Germany, Spain, and to the Scandinavian countries. Our plant produces also traditional canned meat preserves: 325 g tins of beef in gravy. This product, as it is well known, can be served hot or cold, and is easy to cut into slices. Ideal hygiene in the production of these preserves — this is a characteristic feature of all products offered by our plant — ensures their guaranteed shelf life. I am sure that a dinner, of which the main course, prepared with this product will not only be tasty, but also healthy for the



entire family. In the Federal Republic of Germany, where our preserves have won the widest circle of buyers, our beef preserves are considered to be definitely better than similar products from other sources, as we give meat which is free of strings, bits of fat, and we give natural spices. Also, our canned wiener wursts have won high recog-



nition, because our customers throughout the world know that this product is made from the best raw material.

The neighbouring vast meat processing plant exports its wiener wursts (frankfurters) to the American market. After a tasting session of our products, it was found that wiener wursts from our plant are not second to the "neighbouring" ones. This is not surprising: we have the same raw material, of equally good quality, and our pork butcher's craft attains results which satisfy our customers.

By the way, we have ordered new equipment and are expanding the plant. We will receive a higher output wiener wurst filling machine; we will test both a Polish machine and a similar one imported from the Federal Republic of Germany and then choose the one which will enable us to still improve further the quality of our wiener wursts.

**Question: Who primarily assesses the quality of your products?**

In pork butcher circles, you, Mr. Director, are considered a remarkable taster...

Thanks for the compliment. In view of the fact that for many

years I have been developing my professional skill, I cannot consider it sufficient, when the varied tastes of our clients are to be considered in the various provinces of Canada — English-speaking and French-speaking Canadians — or, for example, in the Federal Republic of Germany, and Spain. We want to fully satisfy these tastes and that is why we consult, through the intermediary of POLCOOP with the representatives of the importers. They themselves assess our products — often and early — during the phase of preparation of the recipes. Moreover, obviously, before shipment our preserves are checked by inspectors of the Quality Inspection Office, a state institution controlling quality standards. POLCOOP does not receive any complaints as far as our products are concerned. We are very happy that our production is highly assessed on foreign markets.

— We have seen assertions of reports from the Quality Inspection Office admitting our products for exports in unusually favourable terms:



"jelly properly set and clear, meat blocks of fine colour and shapely, compact consistency, good ligature of slices".

We thank you for the interview. In the name of buyers abroad of your preserves, we wish you the retention of the leading position among processing plants delivering their export products to such exacting and requiring good quality enterprise as POLCOOP was and is.

Interview by J.T.

POLCOOP





## Before you relish the Polish mushrooms...

Every weekday morning, at 3 a.m., in summer and in the early autumn, heavy lorries with Polish registration, loaded with fresh chanterelles, arrive at Fruchthof, in West Berlin. Over a hundred wholesale dealers from West Berlin, well aware of these regular deliveries, do their best to include the Polish chanterelles their daily supplies to retail trade. They are generally recognized in Berlin as the most attractive commodity on the green market. People are queuing in many big shops to buy this delicacy imported from Poland.

Polish mushroom preserves are also in very high demand in the shops of the U.S.A., England, the German Federal Republic and other European countries. People, admiring their high quality and relishing their excellent taste, rarely think of the pains and toil required before this tasty product finds its way to their table.

Before you taste mushrooms from Poland, we ask you, therefore, to become acquainted with the processing plant and export base of this product, which is located in the wooded sea-coast region, at Tizebielino in the Koszalin Voivodship.

It is generally known that there are two crops of chanterelles a year, at the beginning of July and in the end of August. Their export is, therefore, most intensive during those periods. However, these fresh mushrooms are sent from Poland successively during the whole season of crops, i.e. from the middle of June to the middle of October, so that they can reach the buyers practically on every weekday (with the exception of Sundays). The transport is arranged in specially adapted lorries, cold storage trucks and in railway refrigerator cars (the delivery includes, at least one complete truck-load).

Export deliveries of Polish mushrooms pass exceptionally thorough quality in-





specions. At Trzebielino and at other export bases preliminary inspection eliminates, of course, wet and dirty mushrooms. The selected product is then sorted according to standard A and B. The 125 grammes chip-baskets or larger cases are marked with the stamp of the individual supplier, thus excluding any anonymity, and, thus, also, contributing to the high quality of product.

This year the cooperative foreign trade enterprise POLCOOP has tightened its standards for the suppliers. The Polish exporter is also announcing further reduction of the delivery time of fresh mushrooms to the buyers by a better organization of transport from export bases situated closest to the state frontiers. New plants will be installed in railway transport for cooling chanterelles in wagons, thus protecting additionally their quality.

A special two-chamber cooler has been installed at Trzebielino in order to improve the organization of deliveries. Fresh mushroom brought from the buying station are placed in a chamber with a temperature of  $-4^{\circ}\text{C}$  for partial removal of their humidity, which will permit to retain for a longer time their natural taste and full freshness. Next, the chip-baskets are moved to a second chamber with a temperature of  $0^{\circ}\text{C}$ . The duration of stay in both chambers is different for different kinds of mushrooms and is only determined after long research.

The complete technology of this process prepared at Trzebielino took into account the results of research carried out by scientists from the Higher Agricultural School at Szczecin, engaged in studies over the storage of mushrooms.

All this ensures full utilization of the work of hundreds of pickers picking chanterelles in the neighbouring woods "borowiki" (*boletus edulis*), "gąski" (*tricholoma portentosum*), and "maślaki" (*boletus luteus*), selling them immediately to buying stations, from which they are quickly delivered to the processing base.

Part of the mushrooms is designated for processing already at buying stations, where they are preliminarily prepared by salting. Trzebielino exports mushrooms also in this form — in barrels. Foreign buyers have willingly accepted Polish mushrooms in brine (chanterelles, "opieńki" — *armillaria mellea*, and "gąski" — *trichomola portentosum*). The strongly concentrated brine (12%—16%) fully preserves the mushrooms without any reduction of their full value. Mushrooms in this form are particularly suitable for the industry, for production of the most sought after products.

The laboratory of the Trzebielino plant, employing highly qualified specialists in this field, has worked out a number of recipes of special compositions. They differ — according to the demand and taste of the custom-

er — both with taste (milder and more piquant) and with the composition of mushroom mixture (the larger part of the mixture consists of "gąska" — *tricholoma portentosum*, "maślak" — *boletus luteus* or "borowik" — *boletus edulis*). All these products, packed in tins, retain these taste and the most important properties of fresh mushrooms, thanks to the proper technology.

Conditions under which the mushroom preserves are produced at Trzebielino invite full confidence. Far going automatization of the production line and repeated in-process quality control guarantee sanitary conditions and soundness of the product. It is generally known that the use of preserves saves time required for preparation of mushroom dishes. For that reason they are a valuable product for the housewives even in the full season of deliveries of fresh mushrooms; and after the season they are the irreplaceable source of satisfaction for the gourmet and amateurs of Polish mushrooms.

The interest which accompanied in the past seasons the sale of the first information lots of Polish mushroom preserves is a good forecast of further transactions. POLCOOP, the Cooperative Foreign Trade Enterprise, interested for many years in the development of exports of the forest fruit, sees considerable trading possibilities in this field, both in deliveries of fresh mushrooms and of sterilized mushroom preserves. It is stimulating, therefore, that the development and introduction of fully automated complete lines for processing mushrooms, is in first place at Trzebielino. Today the cans are filled with preserve manually by several dozen skilled workers standing along the conveyor belt. In the nearest future this work will be taken over by automatic batching equipment, and the feeder conveyor will pass the cans to the closing station, and bath them in the sterilizer. The extension and reconstruction of stores at the Trzebielino works provided additional area for storage of containers with mushroom preserves. Next on the agenda is the reconstruction of the production hall.

In the meantime, before arriving at the last stage of modernization, i.e. the complete automatization of production, attention of the management has been concentrated on securing the best craftsmanship at all stages of production of the unique preserves. Starting with the desalting of mushrooms (as we have already mentioned, mushrooms are supplied to the plant salted), through boiling at predetermined temperature and ending with slicing and composing of mixture, at all points the master hands of craftsmen — specialists in mushroom processing — guarantee observation of laboratory standards and of laboratory cleanness.

When the canned products are stamped with the "CIS" mark, meaning "Accepted for Import", the acceptance

of Standardization (state authority for quality control), the products are transported to a modern store. Stored under proper conditions the product retains its full value and can be sent out even to the most demanding customers. In addition to fresh mushroom and mushroom preserves the Trzebielino plant prepares also for export marinated "borowik" (*boletus edulis*), "maślak" (*boletus luteus*), and "gąski" (*tricholoma portentosum*), as well as, highly valued dried mushrooms.

Dried mushrooms are represented in the present export offer of Trzebielino and POLCOOP by chanterelles, "borowik" (*boletus edulis*) and "piestrzenica" (*helvella esculenta*). It should be mentioned here that the drying process of the latter mushroom, carried out strictly in accordance with the relevant Polish technological standard, removes all substances unwholesome for human health, particularly helvolic acid. When without even a trace of this acid, dried "piestrzenica" (*helvella esculenta*) can be — and is — used as an excellent seasoning for sauces and dishes, contributing piquant taste and additional nutritious values. POLCOOP is exporting dried mushrooms (among other to France and the German Federal Republic) with moisture content guaranteed by the standard (12%). Individual containers, prepared at Trzebielino according to

the wishes of the customer, contain mushrooms only of one class (mushrooms are classified according to size into three classes). The customer receives, therefore, the product not only of guaranteed quality but also of required class.

It should be expected that consumers in countries which have not yet imported mushrooms from POLCOOP would welcome the import of Polish mushrooms, generally recognized and appreciated in Europe and the U.S.A., also as a frozen product.

**Thanks to the development of Trzebielino and other plants the Polish exporter hopes to increase considerably in the current season the quantities of mushroom preserves supplied to various markets (sterilized chanterelles and mixed mushrooms, i.e. "maślaki" — *boletus luteus*, and "gąski" — *tricholoma portentosum*, sterilized, in 0,5 litre cans). The knowledge of craftsmanship and thoroughness in production and of modern organization of buying and sales will undoubtedly increase the willingness of our customers to savour Polish mushrooms.**





# the exporter of frozen fruit and vegetables

**Frozen fruit, vegetables and ready dishes are finding an ever increasing popularity and recognition, both at home and on many foreign markets, due, among other things to the growing demand for frozen food. The example of many countries can provide indisputable evidence that the consumption of frozen fruit is increasing systematically. In Sweden, for instance, the per capita consumption in 1967 amounted to 10,3 kg of frozen food per year; in 1970 it had increased already to 16.0 kg. The respective figures for England were 5.1 and 6.9 kg, and for Denmark 5.7 and 8.5 kg.**

The production of frozen fruit and vegetables has been systematically growing in the recent years; this growth was accompanied by a corresponding increase in exports of this commodity. The selection of new varieties of fruit and vegetables imported from countries with high stand-

ards of agrotechnical methods and modern production plants have contributed to the quality of Polish frozen fruit and vegetables, which have the highest assessment in the world standards.

Strawberries and raspberries represent the main items in the export of Polish frozen fruit: —

a) strawberries of the "Africa", "Favourite" and "Ananas" (pineapple) variety have excellent aroma and taste. They are suitable for direct consumption, as well as, for production of jams, fruit ice cream, etc.,

b) the second main position on our export list — raspberries, with specific taste and aroma, find a wide application in the production of candied fruit, jams, and juices.

The seeds of new varieties of vegetables, imported by Poland, such as string beans, Brussels sprouts, cucumbers and carrots, took root very well, giving a product of high quality. In order to maintain this quality in frozen product, Poland is importing machines and equipment from countries which have a highly developed production of frozen vegetables.

The new varieties of carrot (from Holland), with minimum core deprived of green colour, have improved considerably the appearance of our ready product.

The application of mechanical gathering of spinach has almost completely eliminated the presence of mineral impurities in the frozen product (the grating sound heard sometimes during the consuming of this vegetable is due to the presence of calcium oxalate).

The Kliklok equipment for forming and closing cartons with weight of 300 g, 450 g and 600 g provides a perfect external packing equal with quality to the quality of the contained product — formerly the packing system used was below this standard.

Among the new vegetables added recently to the list of frozen products it is worth while to mention here the kale (*Brassica oleracea* varietas *sabellica*), of very high nutritious value due

to the high content of vitamins and mineral salts. This vegetable, rather less popular in the past, is rapidly gaining interest among foreign buyers. In order to eliminate unnecessary work at the preparation of attractive and traditional dishes, we started the production of ready-to-eat dishes, such as "pyzy" (a kind of noodles), potato pancakes, "Russian" ravioli, ravioli with mushrooms and cabbage, fruit noodles and fruit pastry. These products are ready for consumption after defreezing or boiling, saving housewives considerable time and providing fully valuable and tasty dishes.

Ready to eat dishes are sold in foil bags of 0.5 kg and in 0.45 kg cartons — a quantity sufficient for an average family.

An ever increasing popularity is fruit ice cream, low-calorific, made on the basis of lean milk with addition of fruit concentrates; the most up-to-date equipment has been purchased for the production of this product from ALFA LAVAL. The condensation process lasts only 10—25 seconds, the highest temperature is +75°C, which guarantees full value of vitamins in the product. Low-calorific fruit ice cream, with a low content of fat, features full taste, aroma, and excellent "fluffing". The low content of fat contributes to the attractiveness and wide sale of this product. The Polish freezing industry is introducing new types of packing — in addition to the traditional cartons with foil bag, with capacity of 0.5 kg, used for export of strawberries, frozen vegetables, single- and multi-component. The new cartons of the Kliklok type, with capacity of 300 g, 450 g and 600 g, are used in the export of raspberries, kale, spinach, and mixed vegetables. The above described frozen fruit and vegetables and ready dishes are exported by the Foreign Trade Enterprise HORTEX.

**Polish frozen fruit and vegetables are also exported by two other foreign trade enterprises — AGROS and POLCOOP.**





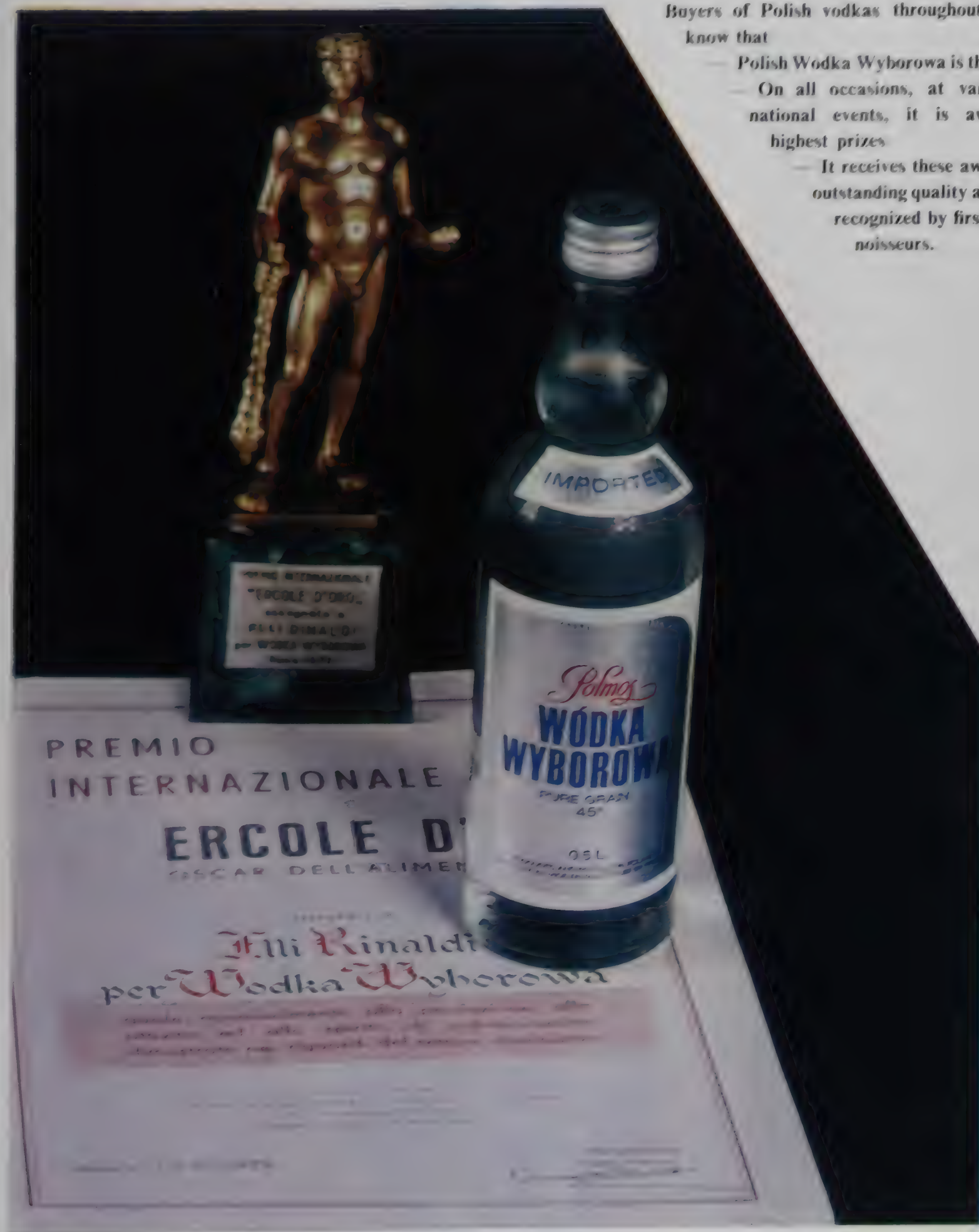
# HORTER



# This requires no comments

Buyers of Polish vodkas throughout the world know that

- Polish Wódka Wyborowa is the best drink
- On all occasions, at various international events, it is awarded the highest prizes
- It receives these awards for its outstanding quality and tastiness recognized by first-class connoisseurs.



The Spirit Distilleries in Poznań are renowned for their traditions of many years standing in the production of alcohol products. They have to their credit many international prizes and diplomas. The distinctions won are proof of the international recognition of the high quality of these products.

The sole exporter of Polish vodkas is AGROS Foreign Trade Enterprise, Warszawa, Żurawia 32 34, POLAND.



Just as in France and Italy grapes are a national fruit, and wines made from them a national drink, so in Poland sour cherries are the most popular fruit, and the beverages and liqueurs made from them are the best. Due to a favourable climate and appropriate soils, cherry trees grow beautifully almost throughout this country. As cherry trees like humid soils, we encounter them most often in the vicinity of rivers or in piedmont regions where they add colour to the beauty of the landscape.

The spherical dark — some varieties almost black — fruit (such as of the Princess and other cherries) give a dense dark-red juice which is remarkable for its magnificent aroma. It is just this juice that is the basic raw material for making special liquors.

The freshly extracted cherry juice is mixed with the highest quality, twice distilled, alcohol; and is next sweetened with sugar syrup and spiced often with almond oil, vanilla oil, natural honey.

After being well mixed, the liquor is stored in a cellar where it settles, matures and mellows (becomes milder). It is at this time that the liquor obtains its smooth flavour, which is so liked and appreciated by connoisseurs.

The liquor, improved during the maturation process, is carefully chemically and organoleptically examined, and then mechanically bottled by modern bottling machines. The bottles are corked with a pilfer proof type cap and appropriately labelled.

The entire production process is carefully supervised by a team of highly skilled labour

# Original Polish Liqueurs and Special Fruit Vodkas



tory workers and afterwards, by the state authorities.

Depending on the brand of the beverage the proportions of the components — alcohol, sugar and aromatic substances — differ. As a result, either a bitter or sweet liquor is obtained: "Wiśniówka" — Cherry Cordial and Cherry Vodka Dry or "Wiśniak" liqueurs — Polish Cherry and Honey Cherry Liqueur.

All these products have the characteristic natural colour of freshly picked sour cherries and a pronounced flavour as a result of which they have world fame reserved for the highest quality products.

## Cherry Liquors

**AN EXCELLENT NAME  
FOR DELICIOUS  
LIQUORS IMPORTED  
FROM POLAND**

Poland is a country of delicious sour cherries and the most magnificent cherry liqueurs and other liquors which are made in Poland in the same way as ages ago.

We recommend the best:

### WIŚNIÓWKA

The meritorious family of imported cherry liquors from Poland are the world's most palatable liquors.

If you want to buy something very good just say: Cherry Cordial, and, you may be confident that you will get the most popular and delicate fruit liqueur — Cherry, which is a favourite throughout the world.



land, on sea, or, in the air, everywhere, the best, beatifully packed luxury gift is Cherry Cordial.

## LUXURY VODKA

This is a magnificent Polish pure vodka made of three times rectified potato-alcohol. The rectification is carried out with the use of a special technology which permits us to obtain a product of exceptional purity. Luxury Vodka is additionally purified by the application of a unique technological process, which produces a final product of exceptional purity with a delicate taste and specific aroma of diluted spirit. It is crystal pure and quite colourless. It is made 45°C strong (45° G L, 79° British Proof or 90° US Proof) and in this form it is best drunk on the rocks or as cocktails.

Luxury Vodka is especially recommended for serving with snacks, cold meats and cold fish. Due to its high quality, Luxury Vodka is particularly liked and highly assessed by gourmets. And here are two recipes for two cocktails made with this vodka:

### LUX COCKTAIL I

3/5 Luxury Vodka, 2/5 white Vermouth, well mixed with ice and served with a thin slice of lemon.

### LUX COCKTAIL II

Mix 1/3 Luxury Vodka, 1/3 Cherry Cordial, 1/3 rum with ice, and decorate with cherries.  
Exporter: AGROS Foreign Trade Enterprise  
Warszawa, Żurawia 32/34, Poland

## WIŚNIOŹKA — CHERRY CORDIAL

This cherry liqueur with a magnificent dark red colour, pleasant aroma and a delicate harmonious flavour is a favourite beverage with Poles.

It tastes wonderful when served, after cooling, in special liqueur glasses.

It is also more full-bodied than other cherry liqueurs, and is an excellent component of various cocktails and mixed drinks.

Any host can be proud and pleased when he serves his friends with the following excellent liquors.

Just try it and see!

### WIŚNIOŹKA — CHERRY CORDIAL ON THE ROCKS

Pour 2—3 ounces of cold Wiśniówka — Cherry Cordial on ice cubes and serve in old-fashioned glasses or small vodka glasses. Then you can say: this is the best of beverages.

## COCKTAILS

### 1. RÓŹA WARSZAWY (ROSE DE VARSOVIE)

This cocktail won first prize at the Barmans' Association's Competition in 1965 in Paris. Mix, in a cocktail shaker, 2/6 of Wiśniówka — Cherry Cordial, 3/6 of Wodka Wyborowa, 1/6 of Cointreau, and, add a dash of Angostura, and a cherry.

## 2. ROYAL CHERRY

1 jigger of Wiśniówka — Cherry Cordial, 2 oz., of Wodka Wyborowa served in an old-fashioned style glass — add fresh fruits.

## 3. DOLORES

Pour 1 jigger of Wiśniówka — Cherry Cordial, 1 jigger of Wodka Wyborowa, 1 jigger of dry French Vermouth and a dash of Bacards Rum into a Highball glass with ice cubes. Add a slice of orange or lemon.

## 4. HONOLULU CHERRY

Pour 2 oz., of Wiśniówka — Cherry Cordial, 1 oz., of Wodka Wyborowa, 1 oz., of pineapple juice, a dash of dry French Vermouth into a cocktail shaker with ice. Shake well and serve into a glass with a few cherries.

Whoever drinks liqueurs always chooses Wiśniówka Cherry — Cordial.

This is the most popular fruit liqueur — a true delicacy for ladies and gentlemen.

When the time for a rest and a drink comes, have an excellent after-meal drink, such as, Wiśniówka Cherry — Cordial.

## CHERRY VODKA DRY

This is an aromatic cherry vodka with an addition of slightly sweetened natural juice from beautiful ripe and aromatic morello cherries. This kind of vodka is conspicuous by its intense aroma and full-bodied flavour. This full-bodied flavour permits it to be served (with no admixtures) or mixed half and half with Wodka Wyborowa with various meat and fish dishes.



Cherry Vodka Dry may be served, well iced in small glasses, mixed with other beverages or in cocktail.

Try it yourself!

## COCKTAIL LOLITA

2 oz., of Cherry Vodka Dry, 1/2 oz., of Wodka Wyborowa, 1/2 oz., of Italian Vermouth, 1/2 oz., of orange juice. When well mixed add crumbled ice and serve in old-fashioned glasses with a few morello cherries.

## WINIAK — POLISH CHERRY

This famous Polish cherry liqueur has a low alcohol content but a marked aroma of almonds. This is a smooth drink of a rubi colour, pronounced aroma and harmonized flavour. Winiak — Polish Cherry is a high quality beverage. Winiak is not only a favourite drink of ladies, but is also an excellent component of sweet cocktails.

## CHERRY DELIGHT

2 oz., of Wiśniak — Polish Cherry, 1 oz., of Wodka Wyborowa, a dash of Bacarde Rum.

Shake well in mixer with crumbled ice. Serve or with a slice of orange or lemon.

Winiak — Polish Cherry should be served well-iced in liqueur glasses, or on the rocks, or in cocktails.

## HONEY CHERRY LIQUEUR

This is a very old cherry liqueur which is sweetened with natural honey instead of sugar.

Excellently matched proportions of the basic ingredients — morello cherry juice, natural honey, twice rectified natural alcohol and aromatic additions — make this beverage a magnificent delicious liqueur with an aroma of cherries and honey.

A bottle of this liqueur is a perfect gift for Christmas, all the more so, as, it is attractively packed.

Our advice is taste a Honey Cherry Liqueur served in a liqueur glass.

Quality comes first!

Polish liqueurs and special vodkas have won a number of medals at international exhibitions and contests in Brussels, Leipzig, Ljubljana, Luxemburg, Paris, and other cities.

Among the best most willingly bought Polish liqueurs is Wiśniówka — Cherry Cordial.

Gold medal for the always excellent quality Wiśniówka — Cherry Cordial, a cherry delicacy imported from Poland.

East or West — Polish liqueurs are best.

## WÓDKA WYBOROWA

### and the dinner party

WÓDKA WYBOROWA is the only spirit that can be served at dinner parties with any food right throughout the meal, always well chilled.





WÓDKA WYBOROWA is perfect as an APERITIF with hors d'oeuvres or a cold fish course.

It has the freshness to whet your appetite, just enough verve to make your dinner lively and successful.

Hors d'oeuvres fall in three categories:  
vegetable varieties  
fish and meat varieties  
mixtures of fish and meat with vegetables.

Try the best

Smoked salmon, smoked trout, Parma ham finely sliced with melon, pâté, artichoke hearts, salami sausage, pickled herrings, anchovies and hard boiled eggs, olives, sardines, onions and radishes, roll-mop herrings, tomato salad

Drinks made with WÓDKA WYBOROWA are dry, delicate and well mannered

WÓDKA WYBOROWA — tastes so mellow pleasant



No other drink has such versatility and can be enjoyed in so many ways.

You can serve it:

#### **Straight**

in small glasses  
as an aperitif  
before dinner

#### **On the rocks**

over ice cubes  
in old fashioned glasses  
with any food  
throughout the meal

**AGROS Foreign Trade Enterprise, Warszawa, Żurawia 32/34, Poland.**



# ABC of Polish Meads



## ...More about Polish Fruit Wine



Polish wine-making has age-old traditions which are linked with mead brewing. In countries lacking grape-vines, or in which for climatic reasons grape-vine cultivation was impossible, wine-making from fruit started to develop on a large scale. Among such countries is also Poland. The full bloom of this kind of wine-making occurred only after World War II, despite the fact that fruit wine-making is considerably more difficult and diversified than wine-making from grapes. For fruit wine-making not only requires considerably more machinery but also a deep knowledge of pomology and technology is necessary. That is so mainly because of the great variety of raw materials, the necessity of applying various technical and technological measures in the obtaining of fruit musts and in the regulation of processing (setting) and the differentiated selection of the appropriate microflora and of the difficulties in blending: occurring during the mixing of various bases for the wine and in the choice of proper proportions for the appropriate types of these wines.



The noticing of the fact of spontaneous fermentation of fruit juice gave birth to the know-how of wine making. But this fact is lost in the shadows of long-passed history. However, one of the oldest wine-type beverages was mead which is also called honey-wine. Mead was already brewed by Slavs at a time when the art of making wine by pressing fruit and controlled fermentation was still not known.

Already in the XIV-th century professional mead breweries were known in Poland. In 1572 Bishop Marcin renowned Kromer, the chronicler in his geographical sketch "Polonia", wrote: "Mead brewed with water and hop is commonly used there, particularly in Ruthenia and Podolia, where there is an abundance of bees and the honey collected from fragrant grasses and flowers is delicious..."

Meads, which for a thousand years have been a Polish national alcoholic beverage, are obtained by the fermentation of a solution of natural honey (honey sweetwort) together with brewer's hop. Polish meads, as a honey wine, resemble southern grape wines. In agreement with the wine low ordinary meads and fruit meads are brewed. In each of the categories of these meads double, triple and quadruple meads are

differentiated. This corresponds to the double, triple or quadruple diluting of the honey with water or fruit juice prior to its fermentation. These meads are usually seasoned with vegetal extracts of hop, buck-wheat flower, lime-tree leaves and flowers and with spices (cinnamon, cloves, ginger, vanilla, etc.), as well as, with fruit juices. Depending on the manner of seasoning the honey sweetwort, various kinds of meads are obtained — hop mead, spices mead, herb mead, fruit mead and other meads. For blending juices of almost all fruits are used, but mainly those which are characterised by a specific flavour and aroma. But to obtain the ready for sale the honey sweetwort is subjected to a process of fermentation. Next, after filtering, the mead mellows in storage in wooden, most often oak, barrels during several years. Next the mature mead is bottled in decorative demijohns and is ready for delivery to customers.

In ancient times recipes for meads were elaborated in monasteries. These recipes were as precious as gold, and were kept a closely guarded secret. It is therefore not surprising that, due to specific natural conditions and to the closely guarded secret of production, Poles became great experts in mead brew-

ing and probably nobody is able to match their art in this line. While keeping the old traditions of Polish mead brewing, Poland's fruit and vegetable processing industry continues to brew old Polish style mead and recommends these unique beverages the names of which are connected with the origin of the given mead. These includes such meads as "Koronny" (Royal), "Klasztorny" (Monastery), "Wawel", "Pias", "Podkarpacki (Subcarpathian), or "Niedźwiadek" (Teddy Bear). May we point out that the said meads do not contain any synthetic agents giving aroma, or dyes, or preserving agents.

#### How to serve mead

The proper temperature for serving mead is 15—17°C at which temperature they taste best, before serving at table.

If the demijohn has a cord wound round the top of the bottle, which usually is the case, the top horizontal bind on the neck of the bottle, should be cut with a sharp knife and any possible dust or bits should be wiped off; only then the cork can be drawn. After such an operation the demijohn (or bottle) loses none of its elegant look and the winding on the neck of the bottle remains intact. In principle once a bottle is opened its contents should

The development of Polish fruit wine-making was greatly influenced by the start of the home production of enzymatic pactolitic preparation, the application of bentonites and diatomite and cooling in the processing of wine, as well as, by the thorough study of the application of activating agents in wine fermentation and maturation. This has permitted to attain such a quality of wines that today Polish fruit-wines are regularly winning various medals and awards in international wine contests and at exhibitions.

In the line much perseverance was necessary to overcome the ballast of the prejudice against fruit-wine. The convincing of buyers that fruit-wines are healthy beverages and more hygienic than many other drinks with an alcohol content, as well as that their virtues of flavour and nutritive values are not second to those of grape wines and in many cases surpass them. The virtues of Polish fruit-wines, both from orchardcultivated and forest-grown fruit, are renowned already almost throughout the world. The rich Polish soil, moderate insolation and the right amount of rainfalls combined with a high standard of agricultural cultivation, make possible the supplying of the Polish wine industry with raw materials with the highest flavour and nutritive virtues. It is, therefore, quite obvious that wine made from them is tasty and nutritive. It is however, impossible to present here all the nutritive values and that is why as an example we will only mention the two main indexes — the average content of vitamins (Table No. 1) and of mineral components (Table No. 2) in popular Polish fruit in comparison with grape juice.

May the presented information satisfy buyers of Polish fruit-wines that these wines contain — in addition to alcohol — also useful to the human organism feeding components. It should be also stressed that wine consumption effectively influences the culture in drinking alcoholic beverages in general as it supplants the drinking high-grade alcoholic beverages.

To complete the picture of these interesting wines it is necessary to give some basic technological information.

Polish fruit-wines made of one sort of fruit are called one-fruit wines (e.g. apple wine, strawberry wine, gooseberry wine, etc.). In Poland wines are made mainly from two or more kinds of fruit juices. In such cases a two- or multi-fruit wine is obtained. One of the technological secrets is the selection of appropriate fruits and the determination of their proper quantities for the production of fruit wines. Because various fruits have different colours, fruit-wines are divided into white wines (though the colours range from light-golden to tawny) and red wines.

Wines are also divided according to alcohol content: weak (so-called light wines) up to 10 per cent alcohol content, medium light of 10—14 alcohol content, and strong (or heavy) wines of more than 14 per cent

Table No. 1

Most frequently occurring vitamin contents in fruit juices

Kind of fruit	Vitamin C mg%	Vit. B <sub>1</sub> +B <sub>2</sub> +B <sub>6</sub> +PP mg%	Provitamin A units
briar-rose	250—900	0.495	750
black currant	150—460	0.464	290
colour currant	40—70	0.390	120
strawberry	50—65	0.454	60
gooseberry	30—35	0.098	290
raspberry	20—26	0.121	130
blackberry	18—21	0.521	200
blueberry	16—20	0.415	280
plum	7—15	0.595	350
sour cherry	6—8	0.272	620
apple	5—6	0.264	90
for comparison:			
grapes	3—5	0.301	80

Table No. 2

Average contents of main mineral components in more popular fruits

Kind of fruit	potassium	sodium	calcium	phosphorus	iron	magnesium
briar-rose	459	66	42.2	90.0	5.0	28.4
black currant	352	37	40.3	43.2	1.17	17.1
colour currant	255	21	31.8	30.5	1.02	12.8
strawberry	216	29	22.0	32.9	0.91	13.7
gooseberry	205	16	28.5	29.0	0.78	16.0
raspberry	180	15	19.3	41.2	1.00	12.6
blackberry	208	37	63.3	23.8	0.85	29.5
blueberry	85	14	15.6	9.6	0.70	7.7
plum	188	27	14.5	23.3	0.36	7.2
sour cherry	275	28	15.9	16.8	0.48	9.6
apple	145	15	10.0	19.0	0.40	3.2
for comparison:						
grapes	205	16	19.1	21.9	0.34	6.6





be drunk — but in this respect one need not have any fears as it hardly ever happens that somebody will resist the temptation to kill the bottle. At meals mead is served only with desert. Thus, it is served with all kinds of cakes, layer cakes, sweet dishes or with fruit or even with black coffee. To guests who pay a short visit, mead is served with cookies, honey cakes, ginger cakes, pretzels, cracknels and also with nuts, almonds, figs, dates, etc.

When serving Polish meads, one should remember that this noble drink has additional beauty when served in a lovely wine glass. Meads add splendour to a reception and thus one must have a stock of them. Polish meads, in addition to high class proprieties of flavour and bouquet, are of great nutritive value, as their content of natural sugar, mineral salts and vitamins — especially vitamin C — is high. Meads contain tannins — which facilitates digestion, glucose — which influences most advantageously the work of the heart and the nervous system; and the alcohol in them is an energy producing agent. All this plus their unique virtues of aroma and flavour add up to give a beautiful bouquet. All these virtues cause that Polish meads are in constant demand on markets throughout the world.

alcohol content. Depending on the sugar content fruit-wines are classified as dry (up to 10 g/l), semi-dry (20—40 g/l), semi-sweet (45—65 g/l), sweet (80—100 g/l), very sweet (more than 120 g/l). Each type of wine may be a wine ordinaire or so-called popular, or a brand wine. A brand wine is called a wine which has constant characteristic of high quality, is several years old and is made only by one winery which is the owner of the recipe for the wine. Brand wines as a rule have fancy names, which are, however, connected with the wine's origin or its history.

The proper technology of fruit-wine making has in several stages. The main stages are: washing and morcelling of the fruit and juice extraction; processing of the juice with the Polish "Pektopol" pectolitic enzymatic preparation; filtration and preparation of the setting; inoculation with a culture of high quality yeasts and fermentation, tapping of the young wine, mellowing in storage and stabilization (by means of warming and cooling), blending of the wine and maturation of the blend; cleaning and bottling under sterile conditions into S-demijohns; filtration of the wine, thermal preservation of the wine; corking, and winding with decorative string labelling, storage and packing into cardboard boxes. Another virtue of Polish fruit wines is that they are only made of natural vegetal ingredients.

Poland's wine industry has introduced to its export deliveries of fruit wines a kind of specialization as a result of which it is able to supply constantly brand fruits wines in demijohns (of 0.5, 0.75, and 1.5 l capacity) and mini-demijohns (of 0.10 and 0.18 l capacity). The fruit wine list includes the following wines: "Truskawkowe" (made of strawberry juice), "Goliath" (black currant), "Zamkowe" (made of "Antonówka" apples), "Klasztorne" (multi-fruit with an addition of herbs), "Zbójnickie" (gooseberry), "Złoty Róg" (blueberry), "Rycerskie" (sour cherry), "Jeżynowe" (blackberry and raspberry), "Janczar" (red currant) and "Śliwkowe" (made of specially prepared plums). This set of wines includes wines for serving at all meals and with all dishes. However, for the wines to be at their best they should be served at a proper temperature. It should be also remembered that fruit wines must never be iced or hold on ice as they require plus temperatures to bring out their proper flavour and full bouquet. They should be stored in a dry, dark and cool place. It must be emphasized that Polish fruit wines are most appropriate for making mulled and spiced wines, flips, cocktails, bowls, longdrinks and caudles and even for preparing (during the winter season) hot wine which is made with an addition of sugar and spices.

In presenting the above information on Polish fruit-wines the famous saying of the great philosopher of ancient times, Plato, comes to mind: "... just as milk is vital to a child so to the ripe man wine becomes milk".





The last week of December and the first one of January were, for very long time, considered as feasting period, when the evenings were spent in rest and not at work. Throughout the long years the Christmas period was considered as The New Year beginning, and on the Christmas Day the New Year's wishes were mutually expressed. But when we return to XVIth century, we observe already the New Year's Eve customs and ceremonies, but very different from these of to-day.

For supper there were served in many districts wheat or buckwheat flour cookies seasoned with lard. The young people, while eating these, stroke with spoons their faces by way of a joke, and after the supper smeared with remainders the house windows and barn doors, thus expressing the wish that in the coming year there would be a plenty of corn. There existed also a superstition that on the New Year's Eve it is necessary to steal from any acquaintance something by way of a joke, and then happiness and prosperity would be ensured. The last December day

was designed by the young maidens for fortune-telling about the coming year. In varied foretellings the most important role played either, wax, lead or on the other hand dogs, hens, looking-glasses and even shoes. It mattered about the fact — whether the future husband hoped for will appear in the looking-glass. The maidens were happy when a sword, horse, or horse shoe were cast from wax or lead were sincerely convinced that within the current twelve months they will be married to a Knight. How very jealous were these maidens for when monk's frock was cast — foretelling of taking the veil! Also many pillows were moistened with tears of unhappy maidens, as when a waxen or lead cross foretold death. There was also fortunetelling from which district will come the future competitor. Having taken into spoons the cookies, they came out before the house and listened to the dog barking. The future "darling" should come from the side of the first barking. In the case when two barkings were simultaneously heard from dif-

ferent sides, this meant that the maiden will have two competitors. But the barking being heard from the cemetery side signified not the wedding but death for the maiden.

For fortunetelling which maiden out of her female friends will first get married, hens or dogs were invited. In the case of hens, the maiden standing in a row or circle put before herself the corn on earth and for dogs the bread-balls or appetizing bones. Then the doors were opened, and the four-legged or feathered fortune-tellers were left in, and from the sequence in which they had caught the offered dainties there was guessed concerning the donor's happiness. For a similar fortune-telling the maidens' shoes were thrown up, and again the sequence of their falling down on the floor should indicate the sequence in which the maidens will be led to the altar. In the night when the old year was dying and the New Year born, the maidens had also the possibilities to see in a mirror the face of their future husband. It was necessary to sit down before the mirror,

the candles being alighted, and not looking behind herself wait up to midnight. Then the face of "darling" would appear in the mirror.

But only very few maidens decided for such a fortunetelling in spite of the fact that every one was dying to know her future husband; but the bashful maidens were frightened by the fact that it was necessary to seat completely naked during the whole time. Perhaps it would be better to burn the thin flax-wisp which through rising upwards would foretell a quick getting married. Surely, the face of "darling" could not be seen, but it is not so very important. Only a little patience, and the "darling" surely will appear within the nearest year. It is very interesting to state that just in the country with peasants and not in the nobility residences the custom of meeting the New Year with dances and amply served tables was born. In many surroundings, for example in Podlasie and in Bug region there was a custom of visiting on the old year last day successively all dwellings by maiden

# How in the past the people amused themselves

F. Kotowicz





and fellow groups, while singing the Christmas carols and wishing the happy New Year.

The fellows were disguised as animals, for example as bears, goats, cranes and hens wishing to inhabitants a happy New Year. Also they sung very often very old songs now difficult to be understood, and the maidens burnt the flax — seed which cracked in fire. Certainly, they were amply endowed by the landlords with victuals and money. In the Bug region this was no problem, as in every household there were prepared for the New Year Eve the cookies and meat ravioli. After the young people had visited the whole village they gathered in a hut and selected one of the maidens to be a hostess. This one prepared then the supper, while the fellows ran to the inn to buy for the "earned" money some alcohols, and thereafter they were amusing themselves, while eating and drinking, up to late into the night. In Podlasie region the maidens disguised themselves as Gypsies, one of which simulated to carry a baby bound in a scarf.

A "Gypsy" fellow guided on a rope another fellow wrapped into haulms and simulating a bear; the third fellow played a violin. After having entered a home, the maidens, while imitating the Gypsy voice and movements pressed the landlords to hear their fortune-telling while the imaginary bear issued loud screams. Being accompanied by violin, the bear danced and showed various tricks. If the hosts were not too willing with endowing the Gypsy band, then the maidens threw into the fire mustard seed issuing a disagreeable smell.

It happened sometimes that the carollers took the dainties without invitation in the case when the hosts were not too generous in endowing them.

The amusement took its final phase in the inn. The female "Gypsies" were now present as the common Podlasie maidens, while the fellow Gypsies — as young fellows, and only the "bear" remained in his disguise playing tricks with maidens and performing comic jokes. The violinist played and the whole company danced under his music. The people were fed with victuals gathered during carols. Many a "bear" willingly remained in his disguise, thus being able to provoke the maidens without suffering any unpleasant consequences. Before the end of amusement the haulms on the "bear" were set on fire and next extinguished with water.

The New Year Eve amusements in the present form appeared only in the first decades of the past century, and however the balls took place in ball-rooms of various clubs, as well as, in restaurants and private drawing-rooms, the term "Silvester" (meaning in Polish the

New Year Eve) became widespread much later. Even in 1866 the "Kurier Warszawski", a popular newspaper of this time, announced the amusements which will take place on the New Year Eve i.e. on "Silvester" night. Such one is the reality, but it seems to us that the "Silvester" traditions are centuries-long.

## Christmas Eve Supper in Old Polish Style

When enumerating the year's holidays we usually start with Christmas. In reality one should start with New Year's Day, but in ancient Poland New Year's Day was not a feast day celebrated as solemnly as it is today. In the past it was as if merged with Christmas and was treated as one holiday, or to be exact a sequence of feast days. These feast days were called "Gody" (Wedding Festivities) — the wedding of the New Year with the old one. It was the feast of the year's longest night, which had to be celebrated not by sleeping but by eating and merry-making in company.

Just as many other Christian holidays, Christmas has absorbed this old pagan feast day: customs became mixed and intermixed, dates had been put forward or put back. Today we don't realize that the putting of hay under the table-cloth on which the Christmas Eve Supper is served, the placing in the corners of the room of small sheaves of unthrashed corn and the feeding of the livestock with this corn (this is still done today in some villages) is a custom taken over from the old pagan agrarian feast day, the harvest feast day.

Catholics explained these customs as a wish to liken the interior of the home to the barn in which Christ was born. On the other hand the austere Protestants stormed against these customs and called them outright pagan.

The Christmas Eve Supper — called in Polish Wilia — is served on December 24. People sit down to the meal at the moment when the first star appears in the evening sky. The atmosphere is very solemn and dignified but at the same time joyful. In the past it was the custom that on that day at the Christ-

mas Eve supper servants sat at the table with the landlord's family, and apprentices sat at the table of the master. Nobody was allowed to refuse hospitality — even to one's worst enemy. On the evening everything had to be forgiven, all grudges had to be forgotten. Everybody broke with everybody a blessed host-like wafer and exchanged wishes of happiness and prosperity. Such wafers were also sent with greetings to absent relations and friends.

At the table during the Christmas Eve Supper an even number of people should sit but the number of courses should be uneven. Often a cover was set for some absent person or even for person no longer alive. The food served at the "Wilia" was not only given to taste to animals but it was also put out on the doorstep of the house for the departed. These are again remains of some ancient rite. The belief than on Christmas Eve night animals speak the human language is generally known among Catholics.

As mentioned earlier brand of hay is put under the table-cloth. From this hay, after the supper, prophecies as to length of life, the harvest in the coming year, and in the case of maidens when they will be married, are drawn. With time, to simplify these prophecies, small symbolic objects were put under the table-cloth such as a tiny dolly — which meant early marriage or the birth of a child, a rosary — which meant taking of the veil. In this way the custom of giving presents was started, though some people claim that the giving of gifts is an old Roman custom.

After the "Wilia" girls, curious of the future, used to go out in front of the house and wait to hear dogs bark. From the direction where a dog barked matchmakers would come.

The custom of the Christmas tree was born as late as in the early XIX-th century. It spread so quickly probably because of the enthusiastic reception by children. Today children find gifts under the Christmas tree.

However, let's return to the supper. After all we are most interested in food. Here again we must recall traditions as no meal is so full of traditions as the Christmas Eve Supper. Depending on the wealth of the family there were 5, 7, 9, 11, 13 or more courses. The meal, by order of the Church, was meatless. The menu — irrespective of the wealth of the family, had to include two components, the immemorial symbols of fertility and a fruitful harvest, blue poppy seed and honey. It was believed that if somebody failed to taste a number of dishes at the Christmas Eve Supper this person would miss the same number of pleasures in the year to come.

Of the many dishes and menu variants we have selected those which were most frequently served and some of which by tradition simply had to be served during the "Wilia". Usually on Christmas Eve the mid-day meal was not eaten. The women were to busy with the preparations for the feast. Sometimes a herring (in cream or oil) was served, but more pious people fasted until the evening.

Soup — fish soup, mushroom soup, almond soup or meatless borsch with mushroom raviolis — was the first dish of the Christmas Eve Supper. Next followed various kinds of fish. Perch with chopped eggs and carp à la polonaise in grey sauce with almonds and raisins should be mentioned as classical Polish dishes. In richer households wine or Cognac were added to the sauce. Also a meatless cabbage seasoned with oil and boiled with mushrooms was often served. In central Poland noodles with blue poppy seed were a popular dish. In the Eastern districts a dish called "Kutia" was linked with many traditions. Blue poppy seed with honey, honey-cakes, dried fruit, various sweets "Kisiel" (a kind of jelly) and a blue poppy seed cake were characteristic deserts.

Obviously these are, as we have mentioned earlier, but a few of the dishes which our ancestors consumed during this solemn evening. We would like to say something more about the dish called "Kutia". This is a dish made with pearl gruel (produced from thick wheat gruel) which is compactly boiled and mixed with blue poppy seed and honey. In some regions of Poland it was considered as a "housewives" dish, while the "Kisiel" (a kind of jelly made with oats powder and served with thin cream with blue poppy seed) was considered a dish of the master of the house. "Kutia" was also used for obtaining a prophecy — the contents of a spoon was thrown up at the ceiling and of many grains stuck to the ceiling the harvest would be rich in the year to come.

At present as the last course of the "Wilia", grated blue poppy seed with raisins, almonds and nuts, to which warm liquid honey is added as a sauce, is served. The dish is garnished with pieces of crunchy cake. Then follow figs, dates, raisins, nuts, almonds and small honey-cakes are served arranged on one dish.

All this is very tasty; and it is no easy matter to get up from the table.

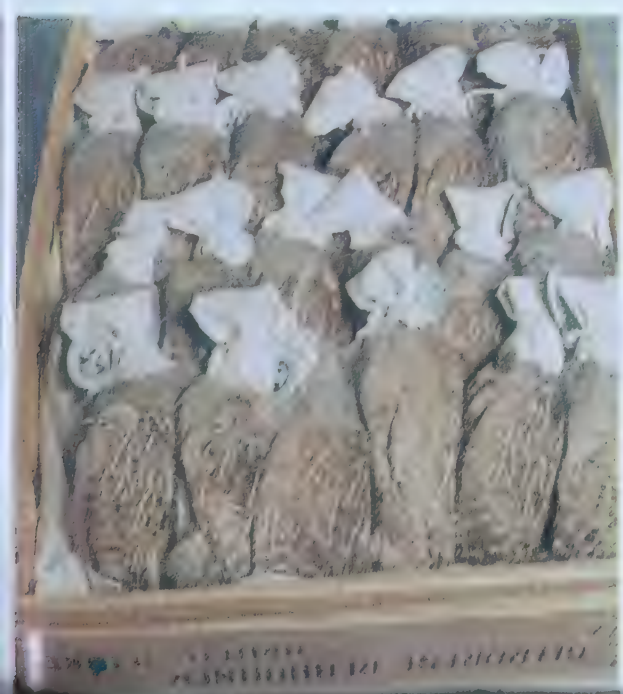
This, however is but the beginning. Christmas lasts long and it is the ambition of every housewife to show off before the many guests her skill in culinary art according to the old Polish tradition "Even if you can't afford it give the guest the best".





Game is at present one of the most often in demand meats on markets throughout the world. Among its main virtues are: negligible amount of fat tissue, unique flavour and, lastly, but what is most valued today, absolute certainty that the game is not infested by any chemical agents, which most often, are not applied in Polish forests. In many cases the uniqueness of game ensues from the fact that some species are found only in small numbers and solely in defined areas of our globe. It is a well-known fact that Polish forests are the abode of considerable quantities of game, which permit to supply the home market and many markets abroad.







**Food from Poland  
has asked the  
General Manager of  
the LAS Union of  
Forestry Production,  
Mr. Stanisław  
Dobrodziej to grant  
a short interview.**



**Question: Mr Director we would appreciate a few words about the winning of game?**

**Answer:** Game population, just as forest fruit is dependent on the variability of atmospheric conditions, mainly of the winter season, excessive rains or droughts of long duration. These factors influence the supply of game. I want to emphasize that the LAS Union of Forestry Production is engaged also in the exploitation and processing of forest fruit — but this is a separate subject.

In returning to the point it should be noted that among our statutory duties is the purchase of game supplied to our purchase points by hunters and hunting clubs. In much frequented

hunting-grounds we have an organized network of purchase points. In Poland there are several hundred such points. Our purchase points are, as it were, the first collectory link. To these points hunters and hunting clubs deliver mainly wing game and small game. These points have at their disposal refrigerator cabins of 2—3 tons capacity, but the game is stored here for a very short time, as on the same day or on the next day both the small game and wing game is transported in special trucks to bases which are located in almost every district. Also at inspectorates of large forest complexes such bases have been organized.

**Question: What work is carried on at the bases?**

**Answer:** The bases are fitted out with equipment enabling them to handle larger quantities of game and primarily big game which the hunters or hunting clubs deliver directly from the shoots. Here each carcass received is examined on the spot by a veterinary surgeon and receives an attestation of wholesomeness. A quality classification is also carried out which, among other things, serves to set the price to be paid to the hunters. Experts employed at the base assess the value of each carcass and earmark it for cutting into elements, selling whole, processing into preserves or into pork-butcher's products. Bases are equipped with flaying machines, plucking machines for cutting into elements. It is here that the much sought hams are cut out. Our bases have also freezers capable of handling several tons of game and special means of transportation for haulage of carcasses or elements to large cold stores or for direct export

When the game requires special processing it is delivered to specialized processing plants which already have a good name both at home and with

many contracting parties abroad. Among these are the Game Processing and Canning Plant at Toruń, Olsztyn and Opole, as well as, the Game Processing Plant in Poznań.

It should be noted that both at the bases and in the processing plants the veterinary service is independent of the enterprise and is, therefore, truly objective.

**Question: What game and under what form are we able to offer to contracting parties abroad?**

**Answer:** LAS Union of Forestry Production — as I said earlier — organized the purchase of game, some of which is supplied to the home market and the rest is delivered, through the intermediary of ANIMEX Foreign Trade Enterprise to customers abroad. This enterprise delivers to its clients live game including: hares, partridges, pheasants and roe-deers.

A much wider assortment is delivered in the form of killed game. These are: wild boars, stags, elks, fallow deer, roe-deer, hares, wild ducks and pheasants.

Exports of live game are directed mainly to France and Italy and to a lesser extent to the Federal Republic of Germany.

Killed game (not skinned) is imported by contracting parties in the Federal Republic of Germany, France, Switzerland, Italy, Austria and in the Netherlands.

However, recently buyers abroad have been showing increasing interest in improved forms of game meat and are limiting purchases of unflayed and unplucked game. That is why our Union, having at its disposal an appropriate production potential in the line of processing game, is able to satisfy the demand on foreign markets for these products.

Our processing plants produce game in elements, wing-game carcasses and a wide assortment of preserves and

port-butcher's products. The main consignees of element of game and wing-game carcasses are: the Federal Republic of Germany, France, Sweden, Switzerland, Austria and the Netherlands.

Clients from abroad very often put in orders for preserves made according to their own recipes and packed in special tins of particular sizes.

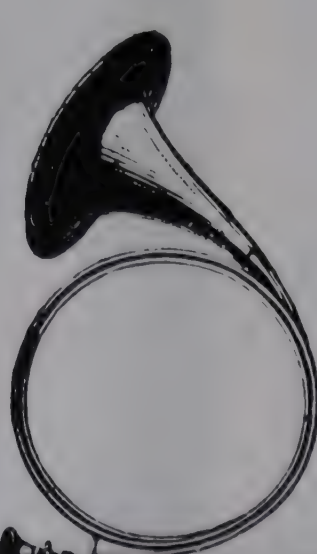
LAS processing plants make meat preserves from all game, namely: pheasant in jelly, roe-deer goulash, stag goulash, venison fillets, stag fillets, wild boar goulash, roast wild boar, saddle of hare sauce chasseur, leg of hare sauce chasseur, roast partridge with mushrooms (champignons), quail in broth, fried quail with mushrooms (champignons), hare pâté de foie, wild boar pâté de foie, partridge pâté de foie, wild duck pâté de foie, pâté de foie chasseur.

LAS processing plants are also engaged in the production of pork-butcher's products made of game. We produce the following assortment: Kielbasa górnicza (Miner's sausage), Hungarian sausage, Opole sausage, Kabanos chasseur sausage, Serwolotka (German sausage), Salami, Kielbasa popularna (Popular sausage), Kielbasa poznańska (Poznań sausage), wiener sausage, hare liver sausage and boneless smoked wild boar ham.

The high quality of game is connected with its chemical composition. In comparison with slaughter animal meat, the meat of game has a higher protein content and a lower content of fat.

The creatine and creatinine content is the cause that the meat of game and game products have remarkably high virtues of aroma and flavour.

Laboratories at the processing plants are constantly elaborating new kinds of preserves and products of various flavours and different recipes. This will permit to further increase and improve the assortment of game products.





## OFFERS

### Tinned soup concentrates

Soups provide a basic item of dinners and, sometimes, of evening meals or breakfast. A meal without soup does not have the full nourishing value. Soups are hence consumed all over the world — at home, in restaurants and boarding houses, in holiday camps and various excursions, on sea-going vessels, on trains and aboard planes... everywhere in fact! But to prepare a soup can be at times a tedious and time-consuming proposition, and this is precisely why many people used to be put off soups. The hitherto traditionally available powdered or cubed soups were of some convenience but cannot be said to have solved the actual problem completely. The introduction by Poland's fruit-growing and market-gardening industry of special soup concentrates has met with a favourable reception on the market. Consumers have thus been provided with cheap, ready-to-eat and nourishing soup concentrates, the resultant soup having that good home-made taste and being free from any preservatives. Soup concentrates have suddenly become popular, their production rising to a dozen or so thousand tons per year. In this way house-keeping has been greatly facilitated along with catering work involved in holiday camps, boarding houses and various establishments of the tourist industry. There is a soup to delight even the most demanding palates. The food industry has increased its production capacity and, backed by its wide production experience and wide range of soups available, is now able to offer various soup concentrates for export and hence is extremely pleased to give the following additional information:

— soup concentrates, sometimes called (depending on ingredients) vegetable or meat-and-vegetable soups, are made from various fresh vegetables and contain pork, beef or veal chunks, or do not contain any meat, herbs and other savouries, plant fat or cream, depending of course on the kind of soup. These soups are preserved only by sterilization in a hermetically sealed packing. The following basic ingredients are present in nearly all soups:

- a) liquids (chiefly vegetable, mushroom, bone, meat extracts);
- b) the main ingredient determining the kind of soup (vegetables) and supplementary ingredients (meat, noodles, groats, etc);
- c) seasonings bringing out the individual taste of the soup, e.g. cream, milk, browned flour and butter, fats, etc);
- d) spices (various aromatic herbs and spices, salt, sugar, glutaminic acid, etc);

The various extracts quoted above constitute the basic stock of any soup as they contain mineral salts, vitamins and dissolved essences and flavourings which stimulate the production of digestive juices in man's alimentary canal and hence intensify the appetite. The name of a given soup is determined by that ingredient which is dominant in the recipe and which is constituted either by a suitably prepared vegetable or a mixture of vegetables with a possible addition of chunks of meat.

The name of soup may also be somewhat influenced by the choice of seasonings i.e. mushroom soup with cream; the cream in this case consti-

tuting the actual seasoning employed. Spices are most often such natural herbs as: nutmeg, pimento, juniper-berries, laurel leaves, etc. which impart a distinct flavour to the soups and make them more tasty. It is to be emphasised that Polish-made soup concentrates are not artificially coloured or flavoured with synthetic preparations. All raw materials and additional ingredients are of purely natural origin and tested by a special sanitary commission.

The problem of preserving as much as possible the natural nutrient value of basic ingredients of soups is well-known to be of great significance; the content of mineral substances and vitamins being in this case of paramount importance, as clearly indicated by the science of rational feeding. The Polish industrial method of producing soup concentrates is aimed at providing the consumers with products having as high as possible content of nourishing ingredients; and hence, features a number of various technical and processing operations leading to the reduction of losses in the nutrient value of soup ingredients. Sometimes the industrial results simply cannot be attained in standard household kitchens as exemplified by the following data on the boiling of such a common vegetable as potato:

Peeled and boiled potatoes	Percentage loss of mineral substances	Percentage losses of remaining constituents
in process steam in water	7.1 21.8	0.8 5.0

In home kitchens where vegetables are usually boiled in water, losses of nutrient components are thus much bigger than those met with in industry which employs steam-boiling of vegetables. And here yet another factor should be taken into consideration — namely the fact that the amount of the said losses depends also on the techniques of the preliminary handling and processing of all ingredients (an operation much more rapid and easier in industry than at home), as well as, on the freshness and ripeness of all raw materials used, foodstuffs processing plants being supplied by their own plantations. The latter are quite naturally capable of delivering fresh, wholesome and ripe vegetables which are extremely hard to come by in standard retail supplying ordinary households. Other important factors include: the amount and quality of the water used for boiling the vegetables (in industry, the water is derived from special water-treatment plants and the amount of water used is kept down to a minimum), the penetration of oxygen into the processed mass of vegetables, time of boiling and temperature of boiling (in industry, special vacuum-boiling methods are used and these account for the preservation of natural vitamins, of the proper taste of the vegetables processed and also softens them up much more readily, etc.).

The above given brief outline of the production of soup concentrates would be incomplete without mentioning that:

— these soups come as dense liquids or semi-dense pulp containing ready-to-eat chunks of vegetables and, or meat, noodles or groats

— the taste of these soups is typical for the given kind of soup and is brought out fully upon diluting them with water in the ratio of 1:1 and then boiling them, a tasty and ready-to-serve soup being thus obtained

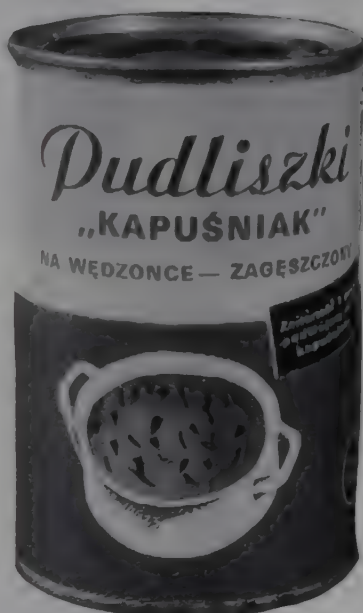
— net content of the product (tolerance — ±4%) is either 450 grams (in.....) and 850 grams (in.....)

— their minimum warranted shelf life is six months

— the currently available range of Polish-made soup concentrates is the following: asparagus soup, mushroom soup with cream, mushroom soup with meat, bean soup, cucumber soup, leek soup, barley soup with smoked bacon, barley soup with meat, tomato soup with meat, pea soup with smoked bacon, Ukrainian borstch, the Wielkopolski borstch with smoked bacon, and the Wielkopolski borstch with meat.

The following fruit soups are available in 0.45 litre TWIST-OFF jars: apple soup, strawberry soup, plum soup, sour cherry soup, bilberry soup.

All these soups are exported by the Foreign Trade Enterprises of AGROS (Warszawa, ul. Żurawia 32/36) and POLCOOP (Warszawa, ul. Kopernika 30).





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*Wladyslaw Oryl*

# Forest Mushrooms





In Polish forests several dozen varieties of mushrooms grow under natural conditions, but, in accordance with a Ministry of Health ordinance of January 10, 1959 on the sanitary supervision of mushroom turnovers and processing of mushrooms only thirty odd of them are picked. Many of these varieties, due to their sensitivity to transportation and quick spoiling can be consumed only within a very short time after being picked.

## Organization of mushrooming

The organization of the gathering of mushrooms and their purchase is the responsibility of LAS Union of the Forestry Production which with this aim has organized some 5,000 purchase points of forest fruit and mushrooms. Of this comparatively large number about 40 per cent of these points have been organized in forests near gamekeeper's cottages or forester's lodges.

Before each mushrooming season LAS Union of Forestry Production trains a staff of experts who are known as "master-mushroomers". Their duty is to carry out a classification of the raw material before it is passed on for further processing. Also mushroom pickers are trained — there are some 350,000 of them throughout the country. These mushroom gatherers come mainly from villages close to forests or are members of forestry workers' families. The gatherers receive professional literature and primarily a colour atlas of mushrooms recommended for gathering, describing their nutritive and taste values, possibilities of transportation, their possible appropriateness for drying, pickling, salting, etc. Moreover, they are trained in the domain of nature preservation both in the line of flora and fauna and all of them are provided with very practical knives for cutting out mushrooms. Already in the forest the gatherers put the fructifications found into special chip baskets made of a standard raw wood and of a defined capacity.

## So many countries, so many customs

The value of an edible mushroom is a relative matter as even in different regions of Poland the assessment of individual varieties is varied and that is all the more so where countries are concerned. In Poland the most highly valued varieties of mushrooms are *Boletus*, *Lactarius deliciosus*, *Boletus luteus*, meadow mushrooms, parasol mushrooms, and other varieties. On the other hand, in many countries of Western Europe the most valued mushrooms are chanterelles. Their additional virtues lie in the fact that they easily bear the hardship of transportation, may be stored raw for a longer time without loss of characteristics of freshness, have a peculiar pleasant aroma and can be served in the form of various dishes or as seasoning.

Among edible mushrooms which are the subject of turnovers the most popular are: *Boletus*, *Boletus scaber*, chanterelles, *Boletus luteus*, honey fungus (*Armillaria mellea*), Butter Mushrooms and Green Mushrooms, *Lactarius Deliciosus*, *Boletus borinus*, tooth fungus, *Boletus Cyanescens*, *Russula*, forest champignons and other aromatic mushrooms and fungi.

In many countries of Europe, and not only of Europe, the mushrooms in greatest demand, all which are abundant in Poland, are chanterelles, the botanic name of which is *Cantharellus cibarius*. Two varieties of mushrooms — *Giromytra exculenta* and *Tricholoma portentosum* — are gathered only for export requirements.

The big demand on the home market and markets abroad for mushrooms creates possibilities for the widening of the list of consumer varieties of mushrooms. At present, research is being carried out concerning the chemical composition and nutritive value of two new varieties. On completion of this work and the attainment of possible positive results it will be possible to increase the volume of mushrooms gathered and to widen the assortment of processed mushrooms.

The specific character of the majority of mushroom varieties, their delicate structure, call for very quick processing under conditions of high hygiene and strict observance of the guiding technologies.

It should be emphasized that the attractiveness of Polish forest mushrooms is the result of not only their virtues of flavour but also, and particularly, to the fact that they virtually do not contain any noxious to the health pesticides. During their vegetation they are not fertilized artificially with chemicals.



## Mushroom processing

As a result of many years of experimentation carried on by the LAS Union of Forestry Production and on the basis of research results in the line of chemical composition and physical properties of individual varieties obtained by scientific institutions, the following directions of mushroom processing have been introduced:

dried mushrooms, mushrooms in brine, pickled mushroom, sterilized mushroom preserves, powdered mushrooms, mushroom extract.

Due to the unique flavour and aroma virtues of mushrooms, they are also used as a component in the preparation of game preserves and of vegetable preserves.

Among the deliveries to markets abroad great interest is roused by mushrooms in brine, pickled mushrooms, sterilized mushrooms, and dried mushrooms. However, the greatest interest is shown by buyers abroad in chanterelles: fresh chanterelles, chanterelles in brine, sterilized chanterelles and recently also in frozen chanterelles. In addition to chanterelles are *Boletus*, *Boletus luteus*, *Tricholoma honey fungus*, *Boletus scaber* and other aromatic mushrooms and fungi are exported in semi-processed form. *Lactarius deliciosus* mushrooms, due to limited possibilities of obtaining them, are mainly processed into marinades. Also *Boletus*, *Boletus luteus*, honey fungus, and *Tricholoma* mushrooms are delivered to markets abroad in the form of marinades (in small size packings).

Sterilized mushrooms find ready buyers abroad. These are primarily fresh chanterelles and *Boletus* mushrooms. Also mixtures of two or more varieties of aromatic mushrooms are popular.

Some mushroom varieties have fixed markets in individual countries. Thus, for example, interest in dried *Giromytra esculenta* mushrooms is primarily shown by the French and Swiss markets. Other buyers show interest in whole and sliced dried *Boletus*, *Tricholoma honey fungus*, and other mushrooms.

Exports of fresh mushrooms and their products are directed to the following countries:

- fresh mushrooms  
the Federal Republic of Germany, West Berlin, Switzerland, Austria
- dried mushrooms  
the Federal Republic of Germany, Switzerland, Sweden, France
- mushrooms in brine  
the Federal Republic of Germany, Switzerland, Norway, the Netherlands
- mushroom marinades (pickles)  
the United States, Canada
- sterilized mushroom preserves  
the Federal Republic of Germany, West Berlin, Switzerland, Finland.

Mushrooms under all forms are delivered to clients abroad by AGROS Foreign Trade Enterprise, Warszawa, Żurawia 32/34, Poland.

The LAS Union of Forestry Production in the line of mushroom connoisseurship and mushroom processing is in constant close contact with Polish scientific institutions and primarily with: the Institute of Forestry Research, the Department of Science on Alimentary Media of the Medical Academy in Łódź, and with faculties of forestry of the Agricultural Colleges in Poznań, Olsztyn, Lublin and Kraków as well as with the Mushroom Information Centre at the Voivodship Sanitary and Epidemiological Station in Poznań.

The Union assigns considerable funds for scientific and research work in the line of mushrooms and publishes its own periodical entitled *Applied Mycology — Mushroom Review*.





*A. Zbrzeźniak*

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# Frozen Fruit and Vegetables

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Frozen fruit and vegetables from Poland are renowned for their excellent quality. Exports of these commodities are constantly increasing with each passing year. The Foreign Trade Enterprise AGROS plays a most important part in exports of frozen fruit and vegetables. The bulk of Poland's production of frozen fruit and vegetables comes from specialistic plants using refrigerating techniques for the preservation of foodstuffs. These are refrigerating plants proper or cold stores situated in different regions of Poland where varied soil and climatic conditions allow for production specialization. It is also thus possible to extend the harvesting time thanks to the fact that, for instance, in Central Poland strawberries ripen some 10 days earlier than they do in Northern Poland.

Among the advantages resulting from the deep-freezing of fruit and vegetables one should mention: the preservation of considerable amounts of active vitamin C, organic acids, mineral salts and organic





septic properties; and it is these features that make the freezing techniques far more superior than other methods of preserving fruit and vegetables. Microbiological investigations have revealed an interesting fact that the process of deep-freezing the fruit considerably lowers the microbiological state properties of the end product. The quality of the final product i.e. deep-frozen fruit and vegetables, is influenced by a number of factors:

— The correct selection of the raw material.

Poland's refrigerating engineering industry cooperates closely with the Institute of Plant Cultivation and Acclimatization and with the Institute of Market gardening on the selection of choicest varieties of fruit and vegetables most suitable for being deep-frozen. In many cases special seeds are imported in order to obtain a raw material fully meeting the requirements of the refrigerating engineering industry.

— The method of freezing is equally important to the quality of the final products. Apart from the traditional method of freezing fruit and vegetables in the refrigerating tunnel, also used in Poland is the so-called method of fluidized freezing. This method consists in the continuous conveyor-based freezing of fruit and vegetables in a powerful air stream at  $-40^{\circ}\text{C}$ .

The powerful air stream used results in that the fruit and vegetables are lifted up and moved over the conveyor surface, which greatly speeds up the freezing process. The fluidization freezing technique gives much more increased vitamin C content in the final product (up to 100 per cent as compared with 75 per cent obtained in the refrigerating tunnel method), helps to reduce fruit juice losses upon freezing by some 30 per cent, and hence greatly improves the structure of the end product. Also noteworthy is the degree of ripeness of fruit and vegetables, an optimum state having been determined as a result of

extensive investigations, which have moreover given the permissible storage periods prior to the deep-freezing process. Fruit and vegetables to be deep-frozen are first classified in order to reject those of poorer quality. Each variety of fruit is subjected to special processes in the course of which mineral impurities, petides, etc. and inferior fruits are removed. The production of deep-frozen vegetables is much more complicated than that of freezing fruit. Each variety of vegetables is processed to remove mineral impurities, inedible parts, specimens of inferior quality, and only specimens of typical shapes are carefully selected. Nearly all vegetables (except cucumbers and onions) are subjected to heat treatment called scalding. Scalding is aimed at not only destroying enzymes but also, when manufacturing mixed vegetable preserves, the application of such a heat treatment process gives equal boiling times for all vegetables contained in those mixtures. For the majority of vegetables the produc-



tion methods are fully mastered while others are being constantly improved.

Efforts are being currently made to attain the complete mechanization of the production of deep-frozen vegetables by applying special production lines of high output; and that in turn will lead to a greater increased production of frozen vegetables. The following are most popular export items in the line of deep-frozen fruit and vegetables: strawberries, bilberries, string-beans, spinach. Frozen strawberries come as: loose strawberries, the standard-extra class I and II, whole or sliced strawberries with sugar (4:1 ratio) standard extra, strawberry pulps with or without stones. Individual standard brands of strawberries exhibit the following characteristics:

- uniformity within a given variety: a 5 per cent content of another variety of the same group is permissible in the standard extra brand, a 10 per cent content being allowed for in Class I with no percentage being quoted for Class II.
- well coloured ripe fruits
- whole fruits of typical shapes: permissible content of mechanically damaged fruits — 2 per cent in the standard extra brand, 50 per cent in the Class I, no specification being given for Class II
- fruits are selected in the following sizes: from 15 to 25 mm, from 25 to 35 mm, over 35 mm
- the consistency of fruits is hard and succulent
- only healthy, mould-free and non-fermentated fruit are used
- characteristic taste and aroma of fresh fruit
- permissible content of organic impurities: standard extra — 1.6 per cent, Class I — 3.2 per cent, Class II — 4.8 per cent.

Strawberries in sugar are similar in their properties to the friable (loose) standard extra strawberries. Permissible content of mineral impurities — 0.02 per cent.

Loose strawberries are packed in large 15 kg parcels, i.e. polyethylene coated cardboard boxes or in unit packings such as polyethylene bags or the "espresso"-type cardboard boxes.

Strawberries in sugar are packed into 30 lb cans. Bilberries come loosely in the A and industrial standards. Bilberries in individual quality standard groups exhibit the following properties:

- dark blue colour
- ripe, well-shaped fruits (not covered with ice, not crushed or deformed in any way)

It is permissible to have:

unstable agglomerates — 1 per cent in the A standard and 15 per cent in the industrial standard  
stable agglomerates — 0.3 per cent in the A standard and 3 per cent in the industrial standard  
deformed bilberries — 1.0 per cent in the A standard, the percentage content for the industrial standard not being given

— pure fruits, free from any organic and mineral impurities.

It is permissible to have:

organic impurities — 0.05 per cent in the A standard and 0.1 per cent in the industrial standard  
mineral impurities — 0.02 per cent in the A standard and 0.2 per cent in the industrial standard  
— healthy fruits.

Well-shredded deep-frozen spinach exhibits the following features:

- formed in the shape of a lump as a portion or block

— uniform, compact, green-coloured mass

— correctly scalded, free from pest damage, with no sign of mould or fermentation

— characteristic taste

— free from organic and mineral impurities, flower shoots, roots or parts of roots.

Deep-frozen spinach is packed into 0.5 kg polyethylene bags or large 10 kg cardboard boxes.

The deep-frozen string-beans (French beans) exhibit the following features:

- uniformity in variety
- pods with cut ends (pods undamaged, unbroken and ice-free)
- length of pod sections: from 2 to 4 cm, even fracture surface; pod sections should be undamaged
- green and uniform surface of pods in the whole hatch (permissible content of ripening pods — 1 per cent)
- young, healthy (permissible content of disease-stricken pods — 0.5 per cent) well-shaped pods, no visible pest damage, free from organic impurities, 2 specimens with uncut ends permitted per 1 kg, content of other impurities — 0.05 per cent.

Deep-frozen French beans comes either in polyethylene-lined 10 kg cardboard boxes or in single 0.5 kg polyethylene bags.

In addition to the above mentioned products AGROS also exports the following:

raspberries	Brussels sprouts
black-currants	green peas
red-currants	cucumber salad
sour cherries	carrots
wild strawberries	cauliflowers
plums	mixed vegetables
	vegetable flavourings
	kale

AGROS is the sole exporter of such forest undergrowth products as rowan-berries, sloe plums, black-berries, briar-rose, elder-berries.

The excellent quality of deep-frozen fruit and vegetables exported by Poland is amply warranted by:

— selected, choicest varieties of fruit and vegetables to be deep-frozen

— application of rapid fluidization methods of preparing the raw material for deep-freezing

— carrying out all technological processes in absolute sterility and according to basic technical parameters

— supervision of the whole production process by highly skilled cadres of engineers and technicians

— keeping frozen and packed fruit and vegetables at constant temperature in the range from —22°C to —28°C

— all export products are inspected prior to being shipped by the Central Inspectorate for Standardization, product quality and conformation to contract requirements being particularly checked

— deep-frozen fruit and vegetables are transported only by means of special transport vehicles.

Apart from the Union of Cold Stores, the export-earmarked production of frozen fruit and vegetables is also realised by other organizations, such as the Gardening Cooperatives' Centre, the Union of the Fruit-growing and Market-gardening Industry, and the Agricultural Centre of the Cooperative "Peasants' Self-Help" (Samopomoc Chlopska).

Development of that production within the Union of Cold Stores and the above mentioned organizations is illustrated in the table given below:

Specification	1970	1975
Total production (tons)	45,600	111,000
including:		
Union of Cold Stores	27,600	56,500
Union of the Fruit-growing and Market-gardening Industry	5,200	10,900
Gardening Cooperatives' Centre	10,900	31,000
Agricultural Centre of the Cooperative "Peasants' Self-Help"	4,100	12,100

Frozen fruit and vegetables are exported by the following Foreign Trade Enterprises:

## Exporter

## Supplier

AGROS

Union of Cold Stores  
Union of the Fruit-growing and Market-gardening Industry

HORTEX

Union of Cold Stores  
Gardening Cooperatives' Centre

POLCOOP

Agricultural Centre of the Cooperative "Peasants' Self-Help"

Frozen vegetables are either bulk-packed in cardboard boxes lined with polyethene or portion-packed into polythene foil bags.



*In June 1971 at the International Fair in Padova among other exhibits was Polish cattle. The bulls exhibited there were awarded two cups for shapeliness. Among the businessmen in various branches from all over the world were also Polish exporters who already for several years are in close cooperation with Italian importers of cattle from Poland. Polish TV correspondent Andrzej Zalewski, who was at the Fair, obtained several interviews with the most important buyers of Polish cattle. The editors have reproduced these interviews from tape and published them below translated into English.*

*The Editors*

**Mr. Andreto Nico stated :**

— Polish breeders and the Polish exporter showed us much confidence. They trusted us and our market. As a result they have bred a type of cattle which meets the requirements of the Italian consumer. This was, undoubtedly, a success for Poland. The transition from a small export of young oxen to a large export of almost exclusively bullocks, namely a material in big demand on the Italian market, must be considered as a great achievement of the breeders and of ANIMEX, the initiator of this export.

**And this is what Mr. Andreto Renato said :**

— I fully uphold Mr. Centin's opinion. I remember the year 1969. At that time, on the occasion of delivery by ANIMEX of the hundred thousandth bullock to Italy, Director Brylski of ANIMEX, in the presence of representatives of the Polish and Italian authorities, said, that probably in 1971 we will celebrate the delivery of the two hundred thousandth bullock. This has happened. Today we speak about the three hundred thousandth bullock. This places Poland as an exporter of cattle to Italy in third place next to France and the Federal Republic of Germany. Taking into consideration the needs of the Italian market and the fact that ANIMEX, the exporter of Polish cattle, fulfils its commitments, I wish Polish breeders that as soon as possible we will celebrate the taking by Poland of first place as a supplier of cattle to the Italian market. I particularly want to thank all persons who cooperated in this vast export which was started in 1959 by a shipment of but a few thousand head of cattle. Today this export runs in hundreds of thousand head.

**Mr. Mario Rendo, M. Sc. (Eng.) ;  
Member of the Order of Labour ;**  
who also runs a big stock-farm, said :

— The cooperation which has developed between Poland and Italy need not be limited to cattle only. It can embrace also other lines of ANIMEX's activity. I must state that in the Polish breeders and exporters we have found loyal partners. Our cloudless skies may serve Poland for the development of her zoo-technics. We are planning to expand our activities to the Mediterranean countries and the experiment of the cooperation between our firm and Messrs. ANIMEX during the years 1971—1972 is to confirm the practicability of our projects. Our firm is now planning to increase its present imports of 4,000—5,000 head of cattle annually to 15,000—20,000 head and to widen the range of our consumer and activities to the countries of North Africa and the Near East. Poland will find in us an interesting partner because Sicily lies in the centre of the Mediterranean Basin.  
Interviews obtained and recorded by  
Andrzej Zalewski

**Mr. Vittorio Centin said:**

— It is my opinion that Poland's participation in the Fair in Padova is of great importance to the Polish exporter and to us importers, because here we all have the opportunity and possibility of assessing the results of the work of the producer and of the exporter ANIMEX. ANIMEX has made a great effort to develop exports to our country... I think that the prospects for imports to Italy are very good and important to both parties concerned. We are a country which must import large quantities of meat; and Poland helps us by supplying us with good breeding stock, which, in turn, in turn assists our raisers in the production of considerable quantities of beef required by the population of Italy. I hope that Poland will still further increase her efforts for the development of this export which will bring mutual advantages.



# IT'S WELL-WORTH KNOWING



It is a well established fact that a modern, rationally-minded housewife does not buy foodstuffs in a shop that is situated nearest her home but rather goes to the one which offers a very wide range of various foods, and ensures an efficient customer service. This attitude follows the all-prevailing trends aiming at better organization of everyday life, time saving, easy accounts and transport, etc. And hence each modern and well-organized retail shop spares no effort to have its shelves full of an extremely wide assortment of foodstuffs. And here again the same story is true as the retailer is more willing to be supplied by a wholesale dealer, for exactly the same reasons, i.e. he can thus obtain a wider range of products.

A question now arises — are there some different economic and organizational principles that apply to wholesale dealers?

Of course, not, since also for them it is essential to satisfy the requirements of their clients by resorting to as low as possible a number of sources of supply.



That saves time and money and leaves a far greater scope for problems of marketing and trade negotiations, which lie at the very foundation of success of any commercial enterprise.

In the line of meat, meat products, dairy and egg farm produce ANIMEX Foreign Trade Enterprise is the supplier that meets all the above specified requirements and offers an astonishingly wide and diversified range of products. It is well nigh impossible to enumerate in this short article all meat products offered by ANIMEX, their list covering some 250 different items. Thus, for instance ANIMEX's offer comprises 20 different brands of pork-butcher's meat products starting from the popular to the luxury class brands. This rich offer in the line of pork-butcher's meat products is due to the huge home market backing where some 180 different kinds of those products are being currently marketed. An even richer export offer is presented in the line of canned meat products covering the luxury class products such as ham or pork loin, as well as, popular ones, i.e. luncheon meat, corned beef; all of these products come in a great variety of attractive packings containing from 7 ozs (198.4 g) to 21 lb (9.525 kg) of the products in question.

We should like to devote this article to the latter group of products. Seeing



that many wholesale dealers specialise in supplying particular types of clients, and bearing in mind the various interests of their individual clients, and for the benefit of the readers, we shall attempt to classify canned meat products according to their ultimate destination and not after the hitherto classification systems.

Consequently, canned meat products offered by ANIMEX are divided as follows:

- products due to be industrially pre-packed and sold in large retail shops or destined to reach enterprises making sandwiches on a big-lot basis;
- products for standard counter sales, slicing in shops or for medium-sized snack bars;
- products earmarked for hotels, small restaurants, canteens, for consumption by large families and for standard counter sales at small retail shops;
- products adapted for unit sales for lone people and small families; products capable of being kept in cooling counters or refrigerators, the versions not requiring refrigeration being especially valuable for week-ends and holiday-makers.

This is quite obviously an arbitrary classification, and products qualified by us to one group may be successfully used in yet another group not mentioned by us.

For industrial pre-packing we recommend products coming in the large oblong-shaped cans containing 21 lbs or the pulman-type cans 16 or 14 lbs. Here we offer ham, shoulder, pork loin, and the sectioned and formed ham and shoulder. These products are outstanding for their evenly shaped blocks, where slices of identical dimension and weight, compactness and uniform colour are obtained, and that in turn ensures high profitability. The products in question are moreover fat-free and feature lasting colours and long shelf lives while possessing a standard, pleasant taste and flavour of slightly smoked and mildly pickled meat. Yet another important feature to the user is the fact that all these meat products, while not having an admixture of gellatine can be easily removed from cans, a significant advantage in the industrial pre-packing process. Upon special order, we can deliver products containing not less than 98 per cent of the pure meat product per can. According to customer's requirements, ANIMEX — exported meat products are shipped in crates, cardboard boxes, or in the form of large palletized units capable of being



mechanically unloaded, loaded and handled. The latter form of shipment is particularly interesting to large enterprises concerned with industrial prepacking, because of the simplification of all organizational and storage and handling operations, and because the reduction of overall labour costs involved is considerable.

For the ordinary shop counter sales of sliced meat products and their sales by medium sized snack bars we recommend the following:

- products coming in the 11 lb oblong cans, i.e. ham, shoulder, minced ham and roast beef
- products coming in the 6 (7) lb pullman cans, i.e. ham, shoulder, pork loin, minced ham, minced shoulder, pressed veal and luncheon meat
- products available in the 6 lb cylindrical cans, i.e. ham roll and pork roll
- products available in the traditional pear-shaped 7 and 12 lb cans, i.e. ham and shoulder
- products coming in large diameter 6 lb cylindrical cans, i.e. ox tongues, pickled and unpickled beef in jelly, and pork joints



— products coming in the 6 lb or 6 lb 3 oz conical cans, i.e. pork and veal tongues, and veal in jelly.

These products come in medium-sized cans and are especially adapted for use in medium sized shops, restaurants, quick service counters and canteens. Hams, shoulder and pork loin are made by identical methods and according to the same recipes as products earmarked for being industrially prepacked, hence, their taste and flavour is the same. The meat block has the same shape as the type of can employed. Except for tongues and veal in jelly, hams and shoulders packed in the 7 lb pear-shaped cans, none of these products contain any admixtures of gellatine, which gives the user the same advantages as those already mentioned in the case of industrially prepacked products.

We particularly recommend pressed veal and roast beef, whose exquisite taste and flavour qualities constitute it Poland's "specialité de la maison". It enjoys great renown among gourmets. Owing to their excellent dietetic properties, these products are widely used by school and hospital canteens for sandwich-making purposes, and can be also used for roasting on grills or saucepans and being served hot.

On the other hand, however, for catering establishments and other quick-

to require no extra advertising, and any customer who only once tries them will surely become their firm advocate.

The following products are offered for unit sales for lone people and small families (products easy handled and requiring no refrigeration): ham and shoulder in 1 lb pear-shaped cans, chopped pork in round cans weighing 300 g, 12 oz and 7 oz, chopped ham and pork in round 7 oz cans (these can be served cold in sandwiches or roasted with eggs), ox tongues in round 12 oz cans, pork and beef in natural sauce and in 300 g round cans which may be served hot or cold, veal in the "dill kott" dill sauce, beef in the "salty bitten" broth which comes in round 430 g cans, the goulash-type beef in the "calops" 435 g cans, beef in mushroom sauce coming in round 300 g cans (this product is served hot with potatoes, spaghetti or vegetables), sliced bacon in round 1 lb cans, an excellent and versatile smoked product. All the above quoted products are spiced and ready to serve and are excellent. In spite of their rather popular character only the highest quality, choicest meat is used in their production.

Depending on customer's requirements, we can deliver our products in strong cardboard boxes or wooden crates. In order to receive our current



-service bars hot dishes particularly suitable for serving are joints of pork, beef and veal in jelly which, after being supplemented with vegetables, noodles, potatoes and savouries, make wonderful dinner dishes that can be conveniently prepared and served in extra no time. These products can also be served cold in the form of hors-d'oeuvres or sandwiches.

For ordinary trade in small retail shops, small hotels and restaurants, for large families and snack bars especially recommended are: ham in the traditional pear-shaped 2—5 lb cans, pork loin in 3 lb cylindrical cans, chopped pork and luncheon meat in 4 lb pullman cans, and veal in jelly in 4 lb conical cans. Except for luncheon meat and chopped pork which are absolutely sterile products not requiring refrigeration, the remaining products are pasteurized and as such should be sold at refrigerated counters. As these products are meant chiefly for household use, the cans are provided with special incisions and opening keys.

Ham and pork loin are luxury-class products, whereas, chopped pork and luncheon meat, although of a popular character, are also products of excellent quality owing to the use of choicest meat and special processing techniques which make them very tasty. These products are so good as



quotations, please contact our agents or importers active in your respective countries. They will be pleased to accept your orders and handle all sale formalities. Should you be unable to place our agent or importer, please do not hesitate to contact us at the following address: Foreign Trade Enterprise ANIMEX, Poland, Warszawa, ul. Puławska 14, Office for Meat Products, telex no. 814491. We shall be only too glad to help you. ANIMEX also undertakes deliveries by sea in batches of optional sizes, the volume of those effected by road or rail depending on the actual load carrying capacity of the transport vehicle employed. We execute long-term contracts on the basis of successive or periodical deliveries. We offer highest quality products at competitive prices and dispose of a number of registered trade marks such as: KRAKUS, PEK, TALA, MOLO, POLO, YANO, ATALANTA. On conditions negotiated directly with buyers, we also undertake long-term deliveries of products bearing our buyer's trade-marks or production of meat products according to recipes supplied by the customers or in packings of special sizes.

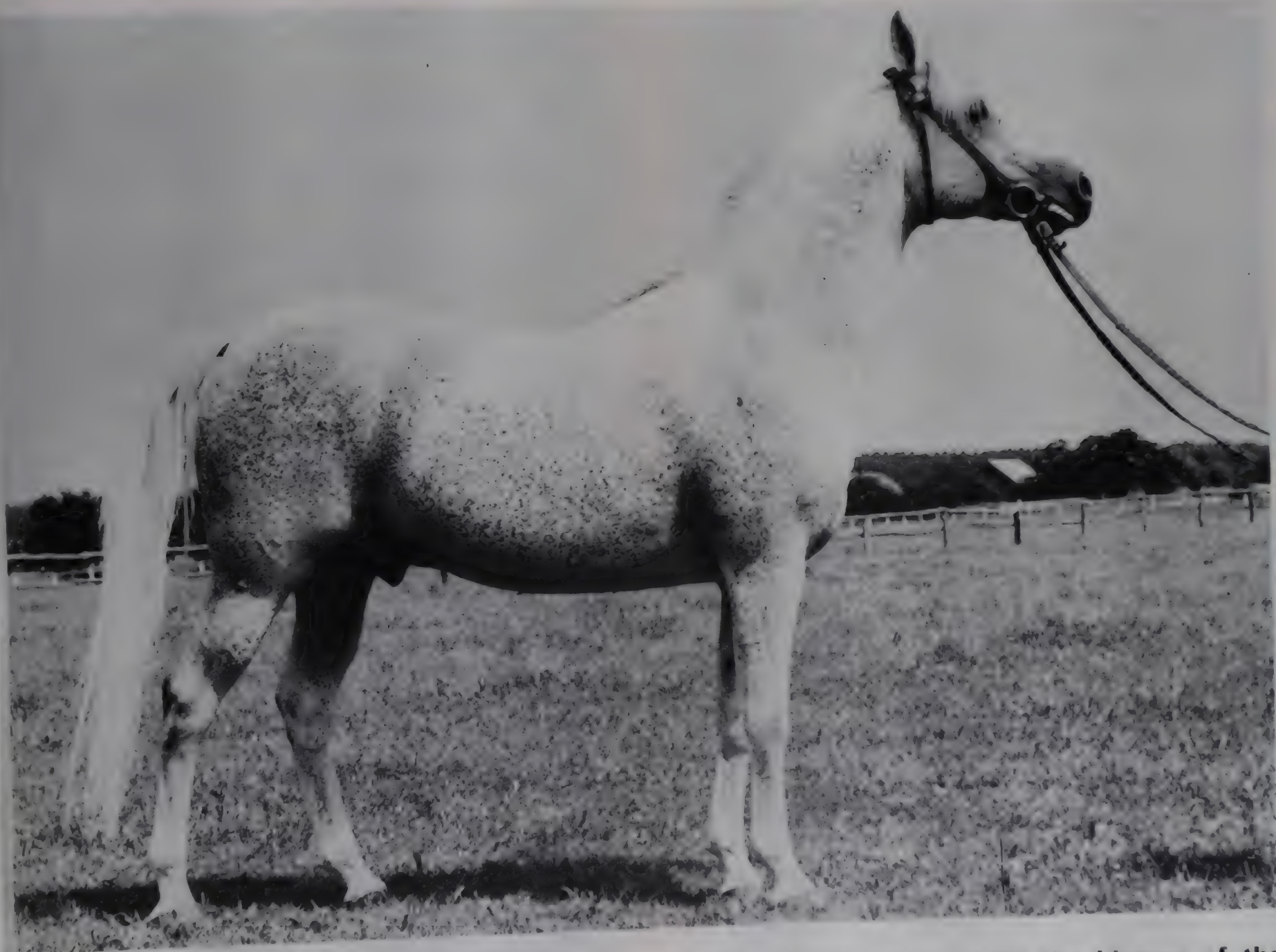
And remember — the widest range of canned meat products at competitive prices is obtainable only from the Foreign Trade Enterprise ANIMEX, Poland.





# POLAND

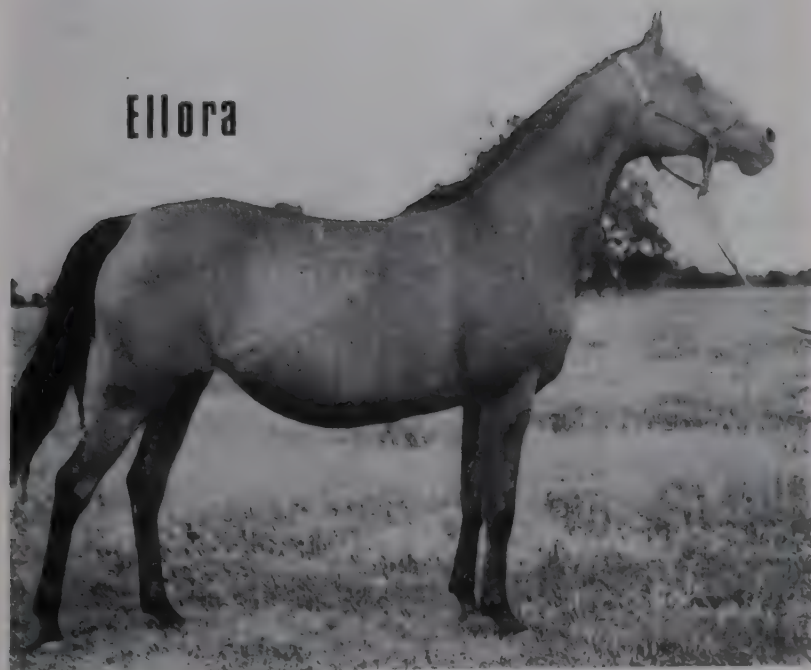
## Europe's Largest Exporter of Saddle Horses



Horse breeding in Poland is closely linked with the history of the nation. In the long-passed days the horse was a Pole's inseparable companion; it shared his fate both during wars and in peace. Horse breeding in Poland became almost a national tradition which is continued also today despite the tremendous losses and ravages caused by World War II. In Western countries the stock of horses is rapidly decreasing, but at the same time riding as a sport is developing ever more rapidly and, thus, the demand for saddle and sport horses is growing.



Ellora



Cissa



To this state of affairs contributes the rising standard of living of the present day society practicing riding. The majority of lovers of this sport consider it more as an active form of relaxation and not as a means of winning Olympic laurels.

Of the 16.5 million horses in Europe, Poland has as many as 2.6 million. This figure, backed by traditions in breeding and riding, places Poland among the world's leading exporters of both slaughter horses and saddle and sport horses.

Few are the countries which have at their disposal such breeding and training facilities as Poland has:

— 32 state stud farms and 16 stallion despots of which:

**Janów Podlaski, Michałów, Racot, Liski, Rieczna and Kozienice** are renowned not only in Europe but are also known among many breeders overseas.

— **Janów Podlaski** — The "Polish Mecca" of the Arab horse is being visited ever more often by breeders from Australia, Canada, the United States and Japan.

— **Liski** — It is from here that the Wielkopolski breed horse is derived. This breed has become known in countries of Africa, the Near East and, obviously, in all European countries.

— **Walewice and Racot** are stud farms of historical importance to Poland; they are among the best leading breeders of the Anglo-Arab horse.

— 18 provincial unions of horse breeders associating more than 32,000 breeders.

The growing importance of Poland as an exporter of breeding and saddle horses is proved by an illustration of these exports during the past five years:

Year	1968	1969	1970	1971	1972
Total...	868	1.257	2.464	4.129	6.000
of which breeding horses	29	55	49	37	50
.. sport horses	195	149	175	210	250
.. saddle horses	644	927	1207	1874	2700
.. riding-school horses	—	121	980	2108	3000

During the past five years these exports have increased sevenfold.

The geography of exports of our horses is widening from year to year. An ever growing number of breeders from overseas — from the United States, Canada, Australia, Japan, the Near East, Africa — visit our studs, and European clients are our regular and frequent guests.

What horses have we and how are our sales organized?

Poland exports horses of the following breeds: pure blood Arabs, thoroughbreds, Anglo-Arabs, and Wielkopolska breed horses divided into the following groups:

**Horses for breeding**: these are bought either to improve one's own horse-breeding or to introduce to it a new breed. In this group the leading place is held by pure blood Arabs. Poland is the second — next to the United States — largest breeder of Arab horses in the world and as far as quality is concerned for years she holds first place. Polish Arabs are constantly winning championships in the United States. Breeding in Great Britain owes much to them, and breeding of Arabs in Spain and in the Federal Republic of Germany is based on them. Thanks to Polish Arab stallions Hungarian breeding destroyed during World War II has been restored at Babolna. Thus exports of Arab horses should be treated separately as in this line Poland holds a place of privilege.

**Sport horses**: these are sold after a fairly long period of training and so-called "dressage". These horses are good jumpers and are fit for horse show jumping or hunting.

**Saddle-horses**: these are trained not only to carry riders but to jump obstacles one metre high.

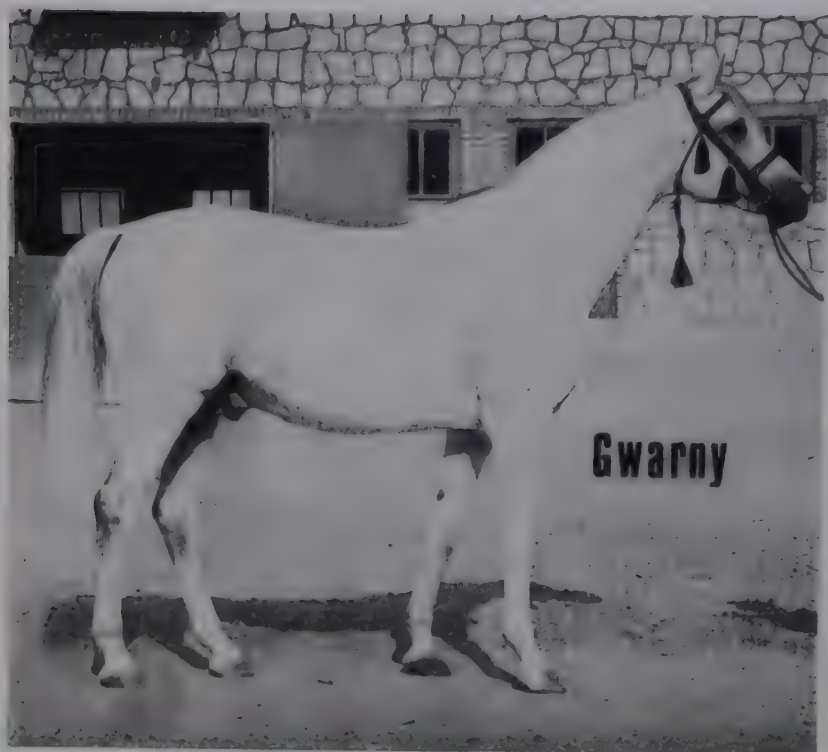
**Remount horses**: this is a group of young horses aged 3—5 years old. They have been bred mainly at state stud farms and have not competed in sports events. These horses are bought primarily by army commissions and are destined for the cavalry. In this group are many horses which may prove to be



El Arrak



Gwarny



good sport horses and that is why they are, obviously, considerably more expensive than saddle-horses.

**Manege horses :** these are saddle-horses which have been trained only for carrying a rider. In principle they are not fit for further training. These horses were bred only by individual breeders.

**Horses of small-size breeds :** Polish ponies and Hucul breed ponies — are in particular demand in Scandinavian countries. They are ideal mounts for children and teen-agers.

The form and organization of sales are adapted to the requirements and wishes of clients and to our possibilities.

At present we use the following forms of sale:  
— Auctions — horses for breeding, sport and saddle — horses from state stud farms and riding clubs.

— Round ups — saddle and manege horses bred by individual breeders, and direct sales at studs and riding clubs.

Auctions are becoming the most popular form of sales because of very many advantageous conditions of purchase for our clients :

- large choice of properly prepared material,
- elimination of loss of time in the "seeking out" of horses at stud farms and riding clubs,
- possibility of purchase at the auction market of riding equipment (bridles, saddles, riding boots),
- the possibility of meeting breeders from various countries and of exchanging opinions, as well as, of spending time pleasantly on excursions organized to beautiful regions of Poland, to horse breeding centres; and also the possibility to acquaint oneself with Poland's rich folklore.

The participants in the last auction at Janów Podlaski visited the unique in Europe Białowieża Virgin Forest and were able to admire the today rare aurochs. A performance of the Vistula River Banks

Folk Ensemble from Janowiec given in a XII-th century castle near Puławy and the participation in the Midsummer Day festivities by bonfires and in the roasting of mutton were a highlight of the social life during the auction.

ANIMEX Foreign Trade Enterprise, the sole exporter of horses from Poland annually organizes 5—6 auctions :

— **in March** — the auction at Poznań Wola of mainly Wielkopolska breed horses opens the season of horse auctions

— **in May** — the auction at Łąck (this year held at Bugusławice) has traditions of more than 10 years standing. It is the biggest and most frequented by customers auction. Here are sold horses of almost all the breeds of horses found in Poland.

— **in June** — the auction of Janów Podlaski (has been held already three times) rouses the highest interest among breeders of Arab horses.

— **in September** — at Książ near Wrocław horses of the Silesian type horse are auctioned.

— **in October** — the auction at Sopot — Starogard is linked with a traditional St. Hubert Day hunt.

This event in addition to the thrills of an auction provides for those breeders and clients who take part in the hunt many impressions. This hunt is the closing event of the riding season.

The so-called horse round ups, which are being organized for three years, are mini auctions at which horses bred by individual breeders, are considered by our customers as an excellent form of sale. Same as at auctions the choice at round ups is big and good purchases can be made.

Rounds ups are organized throughout the country according to fixed annual schedule which is made known to our clients directly by ANIMEX or by agents in the individual countries.

Individual purchases at stud farms concern mainly remount horses and horses for breeding — and are previously agreed upon as to the date and place with ANIMEX.



# MILK CONCENTRATES

*Witold Russel*

The rich assortment range of milk products made in Poland by plants associated with the Central Board of Milk Cooperatives also includes milk concentrates; the most important of them are evaporated milk (unsweetened) and condensed milk (sweetened).

The production of evaporated and condensed milk has been concentrated in one specialized production works (the Regional Milk Cooperative at Słupsk, in the Koszalin voivodship), thus ensuring the high quality of produced milk concentrates, enjoying general recognition among the home and foreign customers.

Polish evaporated and condensed milk is in particularly high demand among the crews of numerous ships visiting Polish ports and buying supplies from the Polish ship chandlers BALTONA.

Polish evaporated and condensed milk features excellent taste—the joint result of magnificent juicy meadows and of hygiene scrupulously observed in the whole technological process. It is worth while to emphasize that most advanced equipment supplied by makers of European renown is used for production of evaporated and condensed milk.

The quality parameters of the Polish evaporated and condensed milk conform to standards accepted for these products in international trade.

The evaporated milk is packed in 400 g tins, the condensed milk in 500 g tins. Wholesale cartons contain 48 tins.

The export of Polish evaporated and condensed milk is in the hands of Foreign Trade Enterprise ANIMEX, Warszawa, ul. Puławska 14.

Their work  
is the  
motor  
of progress

Agricultural production is progressing rapidly. In this progress have a share — a much bigger one than it is generally believed — Polish scientists, who are the motor of progress. They are the authors of the most productive varieties of plants and breeds of animals, of better and more rational methods of fertilization and feeding. People of

## In the Lo

A Prominent  
Practitioner and  
Theorist in  
the Domain of  
the Fermentation  
Industry



In the series of figures of Polish scientists the editors of *Food from Poland* will present now its Readers Dr. Kazimierz Jaroń (Eng.), the viceminister of the Ministry of the Food Industry and Purchases, who started his work and scientific activities from the very base.



who have linked their life with this  
ion of activities have been already often  
ted in our periodical.

Instytut Uprawy, Nawożenia i Gleboznaw-  
Institute of Cultivation, Fertilization and Sci-  
f the Soil) at Pulawy, which is headed by Prof.  
ław Nawrocki, one of the more interesting  
ch work are experiments carried on the sensi-  
ss of various varieties of cereals to mineral  
ation in various soil and natural conditions.  
Results attained in this research work have ser-  
elaborate practical agrotechnical recommen-  
s, which have been transmitted to the agri-  
al service and to farmers. At this Institute the  
ity of new Polish varieties has been examin-  
ne short-straw Luna and Grona varieties do  
dge when very high doses of lime nitrogen  
ven, and, yield, without greater variations,  
0 q/ha and under the best conditions even  
than 60 q/ha.

ers of the Instytut Ochrony Roślin (Institute

of Plant Protection) in Poznań, led by Prof. Władysław Węgorek, during the past year gave much time to the study of the influence of chemical agents on the natural environment.

The institutes in Poznań and Wrocław are engaged in analyses of produces from the point of view of residues of pesticides — insect-weed-mushroom killing agents — in plants, feeders animal products and in the soil itself. Samples are taken of produces from all over Poland and on the basis of results obtained a list is drawn up of preparations admitted for use throughout the country. This research work and steps taken for the protection against the possible contamination of food give in Poland excellent results.

FAO is interested in the research work of Polish scientists. The Institute of Plant Protection has received a subsidy of 650,000 dollars from that organization. This grant is to be used for the training of scientific workers and the purchase of measuring apparatus.

The Instytut Hodowli i Aklimatyzacji Roślin (Institute of Plant Cultivation and Acclimatization) in Warszawa is working on problems, which they already have found in the first stage of putting to practice. And so in 1971 the first 500 ha have been sown with rape-seed free from Eurocic acid. May we recall here that work on the rape herb with a lower Eurocic acid content — a substance what is noxious to health — was first started by Canadian scientists, but in Europe it is Polish raisers who excel in this domain. The new variety of rape is not inferior in yields than the standard varieties, but gives a much more healthy oil.

Of purely scientific work which will also soon be put to practical use, one should mention here research work on the heterization of lucerne. The phenomenon of heterization consists in the fact that at a cross-fertilization of two lines of varieties cultivated a hybrid is created which in rank growth, salubrity, yields, etc. exceeds two parent varieties.

## Stories of Polish Scientists

World War II Kazimierz Jarosz was actively engaged in clandestine teaching. After the war he resumed his studies at the Faculty of Agricultural Industry of the College of Farming in Łódź and at the Faculty of Chemistry of the Polytechnic of Łódź at which he obtained his Master's degree and next the degree of doctor in technical sciences.

A few years he worked in agricultural and industrial distilleries distilling spirit from potatoes or molasses from spirit rectification. During that time he learnt all the secrets of the fermentation process and of the organization of work in this line of production. For a few years he worked in the Central Chemical Laboratory from where he was posted to the Technical Control Department of the Ministry of the Spirits Industry, where a few years he was promoted to the post of chief engineer (technical director) of the Union. After five years, he was appointed managing director of the Union of the Spirits Industry, which he held that post until September 1968 when he was appointed under-secretary of state in the Ministry of Food Industry and Purchases. In many years of work at various levels of the professional hierarchy, Kazimierz Jarosz got to know himself very well with the organization of that industry, and to obtain deep knowledge in this domain — the more so as during the entire duration of his professional work he

dedicated much time to scientific and research activities.

Dr. Kazimierz Jarosz exchanged experiences and was in close contact with almost all Polish scientific institutions in the field of the fermentation industry and with many spirits monopolies and their scientific institutions abroad, for example in such countries as Switzerland, Iceland, Finland, Sweden, the Soviet Union and in other countries.

In the line of experiences and exchange of opinions, he was in contact with eminent specialists in this domain, among others with Dr. Wiktor Swirida, the director of the All-Soviet Union of the Spirits Industry in Moscow, with Professor W. Jarowienko, the director of the Institute of the Spirits and Tobacco Monopoly in Iceland and with many others.

With the aim of deepening his knowledge in the line of fermentation processes and of the technology of production of vodkas, he visited many plants abroad including the Martell distilleries at Cognac in France, wineries and brandy distilleries in Spain among others at Malaga and Xeres. He visited also plants of the fermentation industries in Czechoslovakia, Yugoslavia, the German Democratic Republic, Denmark and Switzerland.

As an outstanding specialist in the domain of spirits industry, Dr. Kazimierz Jarosz has to his credit many publications. He is the author or co-author

of several books and scientific papers such as, for example, "Technologia Gorzelnictwa" ("Technology of Distilling"), "Rektyfikacja spirytusowa okresowa i ciągła" (Periodic and Continuous Rectification of Spirits"), "Odwadnianie spirytusu" ("Dehydration of Spirits"), "Kontrola produkcji w przemyśle spirytusowym" ("Production Control in the Spirits Industry") and others.

He is also the author of many treatises and scientific articles which have appeared in Polish scientific periodicals and in foreign publications such as, for example, in the "International Drawer and Distiller" in which appeared his articles on some of the problems of rectified spirits, in the Czechoslovakian scientific publication "Kwaśny Przemysł" — on the utilization of molasses in distilleries. In 1968 he participated in the First International Symposium of the Fermentation Industry in Leipzig, at which he gave a lecture on the physicochemical changes during the maturation of rye spirits.

The taking over of the duties of under-secretary of state in the Ministry has not restrained the scientific and research work of this outstanding specialist. At present he is working on the identification and elimination of chemical compounds which influence negatively the organoleptic properties of spirits.

At the Ministry he handles matters

concerning technics and technology, cooperates in this line with schools of academic rank and carries on scientific technical cooperation with institutions abroad.

In taking up his post in the Ministry he was able to further widen his interests as within its scope it has 12 scientific-and-research centres, 5 scientific institutes and central laboratories, employing some 1,300 outstanding specialists. His department puts in orders for a number of scientific works with scientific institutes at universities, cooperates with scientific workers of the Faculty of Food Chemistry of the Polytechnic of Łódź, of the Faculty of Agricultural and Food Technology of the Main School of Farming in Warszawa, and of the Agricultural Colleges in Poznań, Lublin, Olsztyn, Szczecin and in Wrocław and of the Institute of Food and Nutrition, the deputy director for scientific affairs of which is Professor Dr. Antoni Rutkowski, the chairman of the Scientific Council at the Ministry of the Food Industry and Purchases. In 1970, after the winning by Polish vodka of the high international prize granted, for quality, the Institute International de Promotion et de Prestige in Geneva — the secretariat of which is in Paris — invited Dr. Kazimierz Jarosz as a consultant in the awarding of international prizes. Until this day this Institute seeks the Polish specialist's opinion as to candidates for the prizes.



# SUNDRIES

## WE FOLLOW A MORE RATIONAL DIET

In April 1972 there took place in Warszawa a scientific conference organized by the Interdepartment Committee for Feeding the Population, Polish Academy of Sciences, the Institute of Long-Range Planning, and the Research Institute of the Cooperative Industry.

The conference was devoted to problems of the long-range shaping of the population feeding policies. Leading economists, physicians, agricultural experts, food industry specialists and dietetics experts — participated in the proceedings of that conference whose basic topic was that of rational feeding and its role in determining the overall health of the society, problems of requirements to be met by export-earmarked foodstuffs having been also considered. It was decided at the conference that general sanitary qualities of foodstuffs and feeding standards had markedly increased in this country, although there still is room for considerable anxiety as regards the eating habits of certain spheres of the society. Dishes with a high fat content ultimately lead to such diseases as sclerosis, diabetes, various ailments of the alimentary canal, and, above all, obesity. Poland as the traditional exporter of foodstuffs gives much attention to the improvement of the quality of food products and the rational feeding of its population, these by no means easy tasks being increasingly better fulfilled. The latter fact was particularly strongly emphasized at the last international congress of European feeding experts, results of research work carried out at Polish institutes of social medicine having met with overwhelming approval of the participants. Thus, for instance, results obtained at the Institute of Social Medicine, the Kraków Academy of Sciences, had conclusively demonstrated the considerable rate of physical growth of Polish children and teen-agers, a fact stemming directly from the rising feeding standards of the population and ever-increasing quantities of excellent quality foodstuffs. Comparative studies carried out at 10-year intervals indicate clearly that the said standards are rising constantly to reach the average European level. It is well worth mentioning here that similar studies carried before

year of 1949 had given highly unsatisfactory results. Rational diet is one of the salient methods of modern prophylactics. Incorrect diet has a decidedly negative influence on the development of children and youngsters and accelerates the degeneration of the organism of those well on in years. Good feeding habits and discipline can be well considered to be the basic methods of fighting such diseases as diabetes, sclerosis. And that is why Polish dieticians and population feeding experts attach such great importance to both the production of foodstuffs and rational diet.

## HERBS ARE BOTH FASHIONABLE AND EFFECTIVE

In this strongly chemical industry dominated world of ours herbs are becoming increasingly popular and a real boom may well be said to be in the offing. It is thought that natural reluctance of people to various chemical preparation has made this possible. The HERBAPOL Union of the Herb-Cultivation Industry is a powerful producer and seller of various medicinal herbs not only in Poland but also on the European and world scales.

As for the drug of RAPHACHOLIN, for instance, HERBAPOL occupies the leading place in the world in the production of that preparation. Suffice it to say, that Poland manufactures several times more of the RAPHACHOLIN-group drugs than renowned European producers of pharmaceuticals. This is connected with the fact that Polish food is cooked with plenty of grease (lard) and this accounts for RAPHACHOLIN being in almost constant demand. Herbs are either picked in forests or cultivated and picked at special plantations. Among HERBAPOL's latest achievements one should mention the cultivation of a special species of woodruff for treating nephrolithiasis, the said herb being currently grown on many plantations, including those round Warszawa. It is hoped to pick several tons of woodruff roots from which the actual drug is extracted, so that the new preparation can be marketed in 1973 and, the size of production permitting, some of it may be exported for export. In order not

to pick all herbs indiscriminately, and these are usually found at traditional localities, it was decided to start in 1972 a new form of purchasing herbs, which is expected to yield additional returns in localities not previously exploited to that effect.

Among new products to be marketed in 1973 there will be a granulated form of BETASOL which is an auxiliary drug in the treatment of psoriasis. HERBAPOL is also due to market new forms of TERPICHOL and TERPINEX which find application in the treatment of liver and kidney diseases.

## POLISH CUISINE — POPULAR NOT ONLY IN POLAND

"Polish Kitchen" is not just an empty slogan but a firm reality and is a convenient catchword for presenting the Polish art of cooking which is, nowadays, becoming increasingly popular with catering specialists in numerous foreign countries. This situation is best proved by the participation of Polish chefs in many catering trade events held all over the world and the full recognition of their abilities and, mainly perhaps, of the tastiness of Polish dishes. In the period 1964—1972 Polish cookery was represented by chefs working in the ORBIS catering establishments, Poland's largest catering enterprise concerned with the tourist and hotel duties and gastronomic activities. ORBIS chefs scored a number of successes and were awarded many gold, silver and bronze medals. Demonstration of the quality of the Polish art of cooking was more often than not the doing of the Polish Chamber of Foreign Trade which, on occasion of various commercial events abroad, including Food Fairs, would invite the ORBIS enterprise to present the many attractions of the "Polish Kitchen".

All "Polish Kitchen" demonstrations proved highly successful and drew thick crowds of people wishing to taste the specialties of Polish kitchen acclaimed by many to be among the best in the world. Similar events are also organized by ORBIS Information Centres localised abroad as well as by individual foreign partners who in their wish to diversify their catering activities and/or intensify their turnover, include Polish dishes on their menus, e.g. during

the so-called "Polish Days", and invite groups of Polish chefs who display the inimitable range of their gastronomic talents and very often return with letters of recommendation to work in restaurants all over the world. Such displays of Polish cooking took place, among others, in the AMBASSADOR Restaurant, Stockholm, and in the GRILLET Hotel Restaurant, Uppsala, Sweden. Imposing is the review of successes attained by ORBIS chefs who in the years 1964—1972 demonstrated the excellent qualities of "Polish Kitchen" abroad. And thus in 1965, 1967 and 1969 Polish chefs and confectioners were awarded gold, silver and bronze medals at the International Gastronomic Festivals held at Torquay, England. In 1969 in the PICADILLY Hotel in Manchester there was held a Festival of Polish Kitchen, organized on the occasion of the "Days of the Polish Economy". In the years 1964 and 1966, on request of the Polish Commercial Counsellor's Office in Vienna, there was organized on the occasion of the Vienna International Fair a Polish Restaurant. In 1967 the management of Vienna's INTERCONTINENTAL Hotel invited a group of Polish chefs and pastry-cooks to take part in a Gastronomic Festival. Further successes of Polish chefs in Austria include, among others, those scored by them at Linz in 1965 when "Polish Week" was celebrated officially in one of department stores, at Innsbruck in 1965 and in 1967, during the International Fair at the STIEFTSKELLER Restaurant which had only just about managed to accommodate all those wishing to taste Polish dishes. In 1969 at Salzburg the Polish Embassy in Austria organized "Polish Days" in the course of which leading Polish chefs had been displaying delicacies of Polish kitchen at the STIEGELBRAU Hotel and in the Salzburg Airport restaurant. In 1969 in West Berlin specialties of Polish cooking art were demonstrated at the "Days of Polish Economy". In the Finnish capital of Helsinki in 1968 Polish chefs and pastry-cooks won great recognition at the ALDOH Restaurant at the time of "Polish Days" organized by the Polish Chamber of Foreign Trade. In the years 1967 and 1969 "Polish Kitchen" was demonstrated during the "Days of Polish Economy" in Paris at the PRINCE EGAL Hotel Restaurant and in the Eiffel Tower restaurant. A similar event organised in 1967 at hill during the international fair proved ve



successful. Upon invitation of the President of the Mexican Olympic Committee a special team of top Polish chefs and pastry-cooks had left for Mexico City to feed competitors and officials from Slavonic countries throughout Olympic Games.

Further Polish successes include: Hamburg — during the 1967 "Days of Polish Economy" and Düsseldorf — during the 1970 "Days of Polish Economy" in the course of which the restaurant at the luxurious PARK Hotel was full of visitors, lovers of Polish cuisine. The "Polish restaurant" housed in the Polish trade pavilion could not accommodate all people wishing to enjoy the Polish "bigos" (a dish of hashed sausage, pork and beef stewed with sauerkraut), of the ŻUBRÓWKA Vodka (Russian Brandy) or ŻYWIEC Beer. All guests were charmed by attractive hostesses wearing original Polish folk dresses. Usually busy and then duly acclaimed were Polish chefs in 1966 at the INTERCONTINENTAL Hotel, Geneva, Switzerland and in Sweden, as in the same year, during the so-called "Polish Days" the Stockholm restaurants of AMBASADOR and ÖSTERPORT and the Uppsala restaurant at the BRILLET Hotel had introduced Polish dishes to their respective menus. Polish dishes were similarly introduced to the elegant restaurant at the ARKADEN Hotell in Umeå, in 1968. The years 1970—1972 have seen further new successes of Polish cooking, as exemplified by the following events held in 1970 at the PALACE Hotel, West Berlin, during the "Days of Polish Culture", in 1971 during the "Polish Week", Hamburg, "Polish Days", Göteborg, Sweden, "Polish Days" at Cologne, the Federal Republic of Germany. A large food festival was organized during the Great Food Fair held in London from 24th January till 6th February, 1972 with a dozen or so countries presenting its cuisine, including, among others, the Greek, Italian, German, Russian, French, Scottish, Hungarian, English, Norwegian and Polish cuisines. Polish hostesses wore beautiful and colourful dresses from the Łowicz region of Poland. "Polish Days" were also held this year at Mulhouse in France, in addition to a competition for barmen organized at Stockholm in September 1972 at the initiative of the AGROS Foreign Trade Enterprise. As it has already been mentioned the group of chefs and pastry-cooks presenting the high qualities of Polish cooking abroad was made up of the

best Polish chefs and pastry-cooks from the well known in Poland ORBIS establishments such as those of BRISTOL, EUROPEJSKI and GRAND in Warszawa, MERKURY and BAZAR in Poznań, CRACOVIA and FRANCUSKI in Kraków, SILESIA in Katowice, GRAND at Sopot, POD ORŁEM in Bydgoszcz, MONOPOL in Gdańsk and GRAND in Łódź.

At all the above mentioned gastronomic events the cooking abilities of Polish chefs have met with a great recognition among foreigners, the excellent Polish dishes prepared by Polish chefs having proved to have been the best possible means of advertising Polish cooking and food from Poland. It is to be emphasised here that, except for the meat and certain fishes, all ingredients and semi-products were of Polish origin and included, among other things, venison, poultry, fruit and vegetable preserves. Such well known and renowned Polish vodkas as WÓDKA WYBOROWA, JARZĘBIAK, ŻUBRÓWKA, SOPLICA, and others were served exclusively. It is to be expected that in the years to come "Polish Kitchen" will continue to bring exquisite delight to the palates of real gourmets and all people fond of good food not only in Poland but also far outside its boundaries.

## Poland's economic contacts with France

Scientific and technological cooperation between the food and agricultural industries of Poland and France that had originated three years ago, can be now safely said to yield highly satisfactory results and contribute effectively to the development of that sector of the national economies of both cooperating countries. Common scientific and technological goals have been postulated, among other things in the line of the production of polyamide casings, chewing gum, packing of thickened juices, powders for refreshing soft drinks, extraction-based utilization of meat offals, the widening of the range of deep-frozen foods, packing of milk and the use of milk in the processing of foodstuffs.

Polish and French specialists have postulated further cooperation in the manufacture of certain types of food industry machinery and equipment, e.g. for the production of fodder yeast, technical assistance in the

production of various cheeses and baby foods.

Representatives of various branches of Poland's food industry have made numerous contacts with French firms, i.e. SOCIÉTÉ CIFAL, THIRODE and the CHELLE syndicate for the building of food industry machinery. Poland's SPOMASZ Union for the Building and Assembly of Food Industry Machinery and Equipment, has approached the French firm of CHELLE with a proposal aimed at widening industrial cooperation in the manufacture of miscellaneous food industry machinery and equipment, and in the development of complete production and processing lines for certain branches and plants of the food industry. Mutual exchanges of information in the line of the distilling trade, including research and analytical problems, have also been made. As a direct result of these exchanges the Institute of the Fermentation Industry has considerably widened its efforts aimed at developing new technological improvements and starting the production of new brands of alcoholic drinks. The extension of our mutual cooperation is further aided by direct contacts and exchanges of Polish and French specialists and scientists in the field of the food industry. Last year's exchange accounted for 23 persons, preliminary agreement for the current year envisaging several weeks' long visits of 14 scientists to Poland and France.

The said agreement provides for their further continuation of joint research work in the field of enzymes, consumption of deep-frozen potatoes, the mellowing of alcoholic drinks in storage, and the production of cheeses.

## The ambitious programme of the meat industry

The trends favouring the growth of swine herd, noticeable since the beginning of 1972, are still in evidence. This can be illustrated by the results of the contracting action in the individual months of this year. In April of last year, for instance, the farmers have contracted 650 thousand heads of swine, and in April 1972 already one million seventy thousand, i.e. 63 per cent more. The number of swine contracted on

May 1972 reached one million 306 thousand heads, against 875 thousand heads on May 1971. The results of the next months of 1972 were equally successful.

In addition to the favourable results of contracting and purchase of swine and to the continuously growing number of swine raised by individual farmers — the main base of supply of meat for the home market and for export, the meat industry, is running and developing swine farms within its own scope of activities. The industry has organized this action for many reasons; mainly in order to secure the supply of raw material for production, but also in order to make up the shortage in the post-season supplies. Within a year the meat industry is going to buy over a million heads of piglets for its fattening farms. These farms, situated in almost all the regions of Poland, had in 1971 the capacity for 320 thousand heads.

Piglets earmarked for fattening have an average weight of 30 kg. The daily increment of weight amounts to an average of 530 grammes. During a year each stand is fattening 2.2 heads of swine. In 1971, for instance, the swine farms of the meat industry have supplied 90 thousand tons of meat.

The meat industry is building and developing swine farms on a large scale. Some of these farms will be handed over for use by the end of this year; 77,000 new stands are envisaged. The new farms will be equipped with most advanced appliances for preparation and distribution of fodder. 20,000 new stands will be handed over for use in the Kraków region, a modern swine farm will be commissioned in the Koszalin region, at Biały Bór; similar projects will be realized in the Bydgoszcz and Wrocław regions.

The plans for 1972 envisage the beginning of construction of two new swine farms, each for 11,000 heads, in the Gdańsk and Katowice Voivodships.

This year's program envisages also a further increase of the fattening stands by over 40,000, which will be ready for use next year. The total increase of capacity will amount to over 30 per cent.

The meat industry is faced with important production and export tasks. In addition, it has undertaken also its own program for fattening swine. The experience gained already in this field permits to expect good results.



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## EQUIPMENT AND METHODS APPLIED FOR ISOLATING NATURAL PRODUCTS USED IN THE FOOD INDUSTRY

It is for the 13th time that this year the results of the Warszawa newspaper "ZYCIE WARSZAWY" competition of "Master of Technology" — Warszawa 1971 became known.

We are writing about this in our magazine for the good reason that among the winners five equivalent first prizes were awarded to people who had developed methods and production equipment for the isolation of natural preparations for use in the food, cosmetic and pharmaceutical industries. Among the winners is Dr. Jan Załęski from the Ministry of the Food Industry and Purchase of Agricultural Products, a member of the Editorial Board of the "FOOD FROM POLAND" magazine. What is the essence of that invention which, putting it in a nutshell, may be described as entailing the sealing of the flavour of, shall we say, apples in a glass jar. The present-day world is in a way saturated with synthetic products and it is more and more often that it revolts against their so widespread use. It is a well-established fact that synthetic preserves added to foodstuffs or drugs for the most part are not neutral to the organism and, above all, synthetic flavour or taste falls a long way off the natural flavour and taste.

And this is why the Institute of the Fermentation Industry, Warszawa, has been working for several years now on the obtaining of natural aromatic substances. Initially, aqueous concentrates of fruit aromas had been obtained, but these had a relatively small fragrance intensity and stability due to their large water content, and had only a very limited use. The method developed by the team awarded a prize in the "Master of Technology" — Warszawa 1971 competition and lead by Dr Krystyna Karwowska makes it possible to enclose the aroma of 100 tons of apples in a single jar. This is a dehydrated aroma of high concentration (1:100 000); one millilitre of the

natural extract corresponds to 100 litres of raw apple juice of very high quality. This extract was obtained by subjecting industrial fruit concentrates to a solvent extraction process, the solvent employed being non-flammable and non-poisonous and easy to separate off from the actual extract. The method is simple, but then it is always the most difficult task to find a simple solution to any problem. Currently, there are several solvents in use in the world, but in all of them part of the solvent remains in the end product. This new method however has the advantage of being not toxic in industrial conditions, simplicity, easy flavouring of foodstuffs and excellent economic yield. Moreover, the method initially developed for obtaining fruit aromas has been already used in other domains and one can quite justifiably nurse hopes that not all of its potentialities have yet been revealed. And its therefore no wonder that there should have been such a widespread interest in that new Polish method abroad. Specialists representing various renowned world firms interested in the Polish method keep visiting the Institute of the Fermentation Industry, Warszawa, and samples sent to many research establishments and food industry concerns have met with an extremely favourable reception. After testing the samples sent all foreign research establishments gave excellent marks to the Polish method, the high quality and strength of the aroma being duly stressed in all reports. The method in question has already been patented in several countries and can be also supplied on a licence basis, large firms in Europe and overseas having already expressed their interest in the purchase of that method. This method is a world novelty and a very valuable too, because of its being urgently needed in the food industry.

## "Tastely Prepared — Aesthetically served"

Under this slogan was held in Warszawa the All-Poland Cooking Competition organized on the occasion of the National Conference on Problems which was dedicated to hotel and gastronomy problems. Such competitions, which are organized annually by this Association of

Tourist Hotels, every two years include a gastronomical competition.

The first competition of this kind — held under the slogan "We Seek Young Talents" was held in 1970 in Poznań's Hotel Orbis-Merkury. The second contest was held in February 1972 in Warsaw's Hotel Orbis-Europejski. This hotel was built in 1856 by Henryk Marconi, the renowned architect. It is one of the oldest hotels in Poland. The hotel, destroyed during World War II, was rebuilt with some of the characteristic elements of the former building having been kept. It was handed over for exploitation in 1962. Due to the luxurious outfit of its interior and its excellent cuisine the hotel has won itself the best Polish and foreign clientele.

In the II All-Poland Cooking Competition participated cooks and head cooks of all classes, pastry cooks and master pastry cooks — in all 67 persons of whom 38 were men and 29 women. They represented the gastronomy of 43 Orbis hotels, 3 Municipal hotels, 5 Polish Tourist and Country-Lovers Society tourist homes and 16 hotels of the Uzdrowiska State Enterprise. The competition embraced primarily cold buffet dishes. Of hot dishes only so-called "short dishes" such as Goulash, Hungarian (paprika) goulash, Beef Stroganoff and home dishes such as ravioli, potato guenelles, etc. were represented. In the pastry class were shown: short pastry, puff pastry, semi-puff pastry, dough pastry and various cakes.

A jury, which included representatives of Orbis and Uzdrowiska enterprises, assessed very highly the exhibited dishes. A proof of this is the large number of prizes and honours awarded. Fourteen persons won gold medals, 21 — silver medals and 12 persons bronze medals. All medal winners and holders of foweth place received diplomas of recognition.

Also diplomas and money prizes were granted to persons and teams who were singled out in the competition as a whole for the quality and look of the presented products. In this contest first place was won by Mr. Mirosław Morawski — head cook at the Hotel Orbis-Grand in Łódź, for his exhibit Cold Poultry and Beef Rib Steak a la Moniuszko; second place was taken by Mr. Marian Ciupek, master confectioner at the Hotel Orbis-Cracovia in Kraków, for his pastries, and the team Mrs. Helena

rysty (Tourist's Home) at Sopot place with their exhibit Cold Carpin Jelly a la Miramar; the Helena Kuźlik and Mrs. Rozalia of the Uzdrowisko Polanica won fourth with their exhibit "C Dietetic fish-rolls".

Moreover the Jury awarded 22 form of brief-cases, hand-bag-cases, table-silver sets, etc.

The aims of this kind of activity Association of Polish Tourist a) raising of standard of standard of hotels and of service by the hotels, including gastronomic services,

b) raising of the professional Polish hotel workers,

c) exchange of information and contacts between hotels.

The organization of all Polish competitions undoubtedly contributes to the upkeep of the good name of Polish cuisine, which deservedly is among foreign visitors to Poland.

## More tasty potatoes for export

The planned studies and research in the field of agriculture envisage and introducing into widespread use in the current five-year period varieties of potatoes, featuring other, higher fertility, higher resistance to diseases and better nutritious values. This problem will constitute the main tasks of our special Potato Institute, who will close with fellow-scientists from Czechoslovakia, Hungary and Democratic Republic. Of varieties mentioned above, 6 cover edible potatoes (varieties earmarked for export) include industrial potatoes resistant to specific diseases. It is estimated that the new edible potatoes will be cultivated on an area of some 500 thousand hectares. The introduction of new varieties should increase crops of potatoes by over 1, a year, thus permitting to















